2-2000

Final Environmental Impact Statement - Iron Point Exploraton License - Iron Point Coal Lease Tract - Elk Creek Coal Lease Tract, Volume 2

United States Department of Agriculture -- Forest Service

United States Department of the Interior -- Bureau of Land Management

FINAL
ENVIRONMENTAL IMPACT STATEMENT

- Iron Point Exploration License
- Iron Point Coal Lease Tract
- Elk Creek Coal Lease Tract
Delta and Gunnison Counties, Colorado
February 2000

Lead Agencies:

USDA Forest Service

USDI Bureau of Land Management

Cooperating Agency:

USDI Office of Surface Mining Reclamation & Enforcement

I

FINAL
ENVIRONMENTAL IMPACT STATEMENT

Iron Point Coal Lease Tract
Elk Creek Coal Lease Tract
Iron Point Coal Exploration License

U.S. Department of the Interior - Bureau of Land Management
Colorado State Office
Uncompahgre Field Office

U.S. Department of Agriculture - Fo est Service
Rocky Mountain Region
Grand Mesa, Uncompahgre and Gunnison National Forests

Cooperating Agency:

U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Western Regional Coordinating Center

February 2000

II

Appendix D

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1.0 INTRODUCTION

This appendix documents BLM and Forest Service activities to involve and consult with other government agencies and the public in the preparation of the Final EIS for the potential leasing of the Iron Point and Elk Creek Coal Lease tracts, as well as the issuance of a coal exploration license for an area within and surrounding the Iron Point Coal Lease Tract.

The North Fork Coal Draft EIS was filed with the Environmental Protection Agency (EPA) on August 26, 1999. The Notice of Availability of the Draft EIS was printed in the Federal Register on September 3, 1999. The public review period for the Draft EIS was 60 days, ending on November 3, 1999. In addition, the BLM and Forest Service transmitted press releases concerning the EIS project and process to newspaper, radio stations, and television stations. The media outlets covered the North Fork Valley, Delta, Montrose, Crested Butte, Gunnison, and Grand Junction areas. These notices announced the release of the Draft EIS and discussed the times and locations for a public meeting on October 7, 1999 in Hotchkiss, as well as a public hearing on the Draft EIS for October 14, 1999, in Hotchkiss.

A public information meeting was held at the Hotchkiss High School at 7 p.m. on the night of October 7, 1999 to explain and answer questions on the North Fork Coal Draft EIS. This was an informal open house, designed to answer questions regarding the organization and technical content of the Draft EIS.

A formal public hearing was held at 7 p.m., on October 14, 1999, at the Hotchkiss High School in Hotchkiss, Colorado. This public hearing allowed for interested individuals and organizations to make oral comments and statements on the Draft EIS, fair market value and maximum economic recovery for the two lease tracts.

The BLM and Forest Service distributed newsletters dated April 1999, July 1999, and December 1999 to individuals on the North Fork Coal mailing list.

- The April 1999 newsletter contained information about scoping, the EIS process, EIS responsibilities, and particularly highlighted the public's role in the EIS process.
- The July 1999 newsletter provided individuals with a synopsis of the issues received during scoping as well as tips on how to review and provide comments on a Draft EIS. This newsletter also included a "return" card to update the North Fork Coal mailing list and to determine the number of individuals and organizations who wanted a copy of the Draft EIS.
- The December 1999 newsletter contained a synopsis of the comments received on the Draft EIS, and an update on the status of work on the Final EIS.

The BLM and Forest Service received 12 letters from government agencies, 17 letters from organizations and businesses, and 26 letters from individuals. Eleven individuals commented on the Draft EIS at the October 14, 1999 public hearing in Hotchkiss, Colorado. In total, 762 comments were cataloged on the North Fork Coal Draft EIS. *Table O-1, Comment Statistics*, displays the number of individual comments received on various disciplines or issues, as well as providing a percentage of the total for the individual disciplines/issues.

Table O-1 Comment Statistics		
Discipline/Issue	**Number of Comments**	**Percent of Total**
Socioeconomics	112	15
Transportation	110	14
Expressed Opinions	92	12
Noise	81	11
Policy Issues (BLM/Forest Service)	50	7
Subsidence	48	6
Air Quality	47	6
Alternatives	38	5
General EIS Content	38	5
Surface Water	33	4
Miscellaneous	28	4
Cumulative Effects (General)	17	2
Ground Water	17	2
Regulatory Compliance	12	2
Geology	12	2
Coal Leasing	7	< 1
Land Use/Reclamation	7	< 1
Terrestrial Wildlife	5	< 1
Wetlands	4	< 1
Aquatic Resources/Fisheries	3	< 1
Cultural Resources	1	< 1
Vegetation	0	0
Soil	0	0
TOTAL	**762**	**100**

2.0 SUMMARY OF COMMENTS

As required by NEPA (40 CFR 1503), the general public, businesses, special interest groups, and government agencies were provided the opportunity to comment on the proposed coal leasing and exploration license application discussed in the Draft EIS. The comment period on the Draft EIS ended November 3, 1999. The BLM and the Forest Service held a public meeting in Hotchkiss, Colorado, on October 7, 1999 and a public hearing in Hotchkiss, Colorado, on October 14, 1999, which allowed the general public the opportunity to provide oral comments and ask questions.

This section is structured to provide a synopsis of the substantial comments and concerns voiced on the Draft EIS. Comments from the public hearing and the comment letters were categorized under the following major headings:

- Air Quality/Climate
- Alternatives
- Aquatic Resources/Fisheries
- Coal Leasing
- Cultural Resources
- Cumulative Effects
- General EIS Content and Preparation
- Geology
- Ground Water
- Land Use/Reclamation
- Miscellaneous
- Noise
- Policy Issues
- Regulatory Compliance
- Socioeconomics
- Soils
- Subsidence
- Support/Opposition (expressed opinions)
- Surface Water
- Terrestrial Wildlife
- Transportation
- Vegetation
- Wetlands

In total, nearly 70 letters were received during the comment period, with 762 individual comments noted.

The following synopsis has been prepared to capture the nature of the comments expressed by the Draft EIS commentors.

2.1 Air Quality/Climate

Several commentors noted that the wind rose measured at the West Elk Mine does not represent wind directions at Paonia and Bowie. There were comments requesting clarification of the ambient air quality standards that apply near the mines and at the West Elk Wilderness.

There were several comments that requested a re-assessment of the emission estimates, particularly items such as regional haze, plume blight, and acid deposition. Several commentors requested that any air quality modeling should include increased emissions caused by population growth in the

Montrose-Delta-Paonia region. Other commentors expressed their opinion that mobile sources are exempt from air quality impact assessments.

Several commentors asked about increased air quality monitoring. There was a request that at least several "PSD quality" meteorological stations and PM_{10} monitors should be installed at several points along the North Fork of the Gunnison River Valley to monitor dust impacts from mining operations.

2.2 Alternatives

Several commentors believed the range of alternatives was not broad enough for a final decision. One commentor requested that the criteria used to develop alternatives be more carefully explained, including how alternatives relate to the needs for economic development and clean coal.

Several commentors requested that an alternative be included that presents a reduced production scenario from the leases. One commentor remarked that "small scale mining alternatives" should be proposed for both lease tracts.

There were also comments requesting a staggered lease alternative in order to minimize off-site impacts. One commentor suggested that the "staggered lease of coal reserves would likely mitigate many of the impacts associated with the expansion, and preserve the income stream to the various economic beneficiaries for an extended time."

2.3 Aquatic Resources/Fisheries

Two commentors indicated that the projected water use for the Oxbow operations in the Draft EIS are significantly higher than are actually occurring. Another commentor indicated a concern for short-term and long-term impacts on endangered fish species.

2.4 Coal Leasing

One commentor requested clarification on the coal leasing process and whether coal leasing authorized mining. Another commentor questioned whether the BLM or the Forest Service encourages coal leasing activities on federal lands. There was one commentor that questioned if granting an exploration license meant the area would be automatically leased.

2.5 Cultural Resources

There were two comments received on cultural resources. One commentor wanted additional clarification on previous cultural resource surveys in the general project area. Another commentor requested more specific data regarding additional reasonably foreseeable developments and whether such developments would effect cultural resources.

2.6 Cumulative Effects

Several commentors requested additional information about possible future exploration activities and mining operations in the North Fork Valley. There were also concerns that the three mines could not sustain production levels and that two mines may squeeze a third mine out of production.

One commentor asked about the possibility of increased coal leasing to meet the demand for clean coal. Other commentors suggested that additional data be provided regarding the environmental changes that have been produced by historic mining activity.

Several commentors were concerned about the adverse effects of previous logging on water supply in Terror Creek and Hubbard Creek. Others remarked that the cumulative effects of constructing new railroad sidings along the North Fork line were not considered in the EIS.

2.7 General EIS Content and Preparation

There were numerous editorial comments that included recommended clarifications, revisions, corrections, and additions to the text, tables, figures, and appendices.

Several commentors asked for a "better explanation" of the purpose and the need for the coal leasing and exploration license. Several commentors stated there was too much extraneous information in the EIS, while others complimented us for our EIS presentation.

There was one comment stating that the Draft EIS failed to provide a history of the events that lead to the decision to prepare an EIS.

2.8 Geology

Comments included questions on faulting, the effect of faulting on coal mining activities, information on igneous intrusions in the area, the source of the coal burn line, and the potential for coal bed methane in the coal in the North Fork Valley area. One commentor wanted to know the total coal resource in the two leases and how recoverable coal was calculated.

2.9 Ground Water

A number of commentors were concerned about the subsidence effects to springs, seeps, and interception of recharge feeding the Terror Creek Ditch. Several commentors were concerned about fault related ground water flow. Others wanted a better discussion of possible trans-basin diversion of ground water. There was a comment regarding the need for additional mitigation and monitoring with respect to ground water, and one commentor was concerned about exploration borehole abandonment.

2.10 Land Use/Reclamation

Several commentors urged for reclamation of the Bowie No. 1 Mine prior to issuing any leases. There was a question about the ultimate disposition of roads used for exploration and access to surface facilities. One commentor stated that roads should be closed, when no longer needed, and reclaimed.

2.11 Miscellaneous

Miscellaneous comments included concerns about the vibration caused by passing trains, the impact of future energy conserving technology on coal mining, and the source of Draft EIS funding. One commentor remarked that past NEPA analyses on coal mining in this region are outdated. There were several comments urging the BLM to include previous comments and EA documents as part of this NEPA process.

2.12 Noise

Several commentors stated that the Draft EIS ignored noise issues on Garvin Mesa. There were comments that requested a minimum of 30 to 60 days of baseline noise measurements.

Some commentors also asked for additional information on the specific noise meter settings, noise meter calibration data, and the site-specific weather conditions during the noise monitoring. One

commentor requested a revised assessment of traffic noise along State Highway 133 which utilized 1998 baseline traffic volumes rather than the 1996 data that were used in the Draft EIS.

Several commentors admitted confusion over the impact criteria used in the Draft EIS. Several commentors requested that the train noise impact assessment should be completed using a methodology other than the Federal Transit Agency procedure that was used in the Draft EIS.

There were requests for additional discussion on how noise levels relate to possible human health impacts. Concern was expressed that noise impacts caused by mining and coal trains would degrade the quality of life in the region.

2.13 Policy Issues (BLM/Forest Service)

One commentor asked how stipulations would be incorporated into any decisions to lease the tracts. Another commentor questioned how lease stipulations received from the BLM and the Forest Service would be incorporated in the permitting processes of the Office of Surface Mining (OSM) and the Colorado Division of Mining and Geology (DMG).

Several commentors attached a copy of the draft Memorandum of Agreement (MOA) that is circulating with the North Fork Coal Working Group (NFCWG). (The MOA discusses items such as relocating the Bowie rail loadout, reclamation of the Bowie No. 1 Mine, production limits at the Bowie No. 2 Mine, etc.). Several commentors wondered if this MOA would be incorporated in BLM or Forest Service lease stipulations.

There were several commentors that questioned who would assume risk in the event of subsidence impacts to the Curecanti-Rifle 230/345 kV electric transmission line and the facilities of the Terror Ditch and Reservoir Company.

Several commentors expressed concerns that the focus of the Draft EIS was too narrow. Comments were received that the EIS should focus on all present and future mining in the entire valley rather than only the two lease tracts and the exploration license.

Several commentors wondered about the jurisdiction of the BLM and Forest Service regarding railroad crossings. Some commentors stated that the BLM and Forest Service should limit coal production to limit train traffic impacts at railroad crossings. Another commentor said the decisions on railroad crossings are outside the jurisdiction of the BLM and Forest Service.

2.14 Regulatory Compliance

One commentor requested more information on the permitting processes if the leases are issued and the exploration license is approved. There was a comment regarding the provisions for government or citizen involvement in future monitoring of coal mining in this area. Another commentor wondered how compliance with lease stipulations and permit conditions would be assured.

2.15 Socioeconomics

Concern was expressed over the use of economic multipliers in general and, more specifically, the use of IMPLAN economic impact model rather than the model developed as part of the Regional Economic Design Project (REDP). The characterization of community/public service provider and fiscal impacts were viewed by some commentors as misleading, confusing, and/or incomplete.

There was concern expressed that long-term and cumulative socioeconomic effects, including viability of a coal-based economy and effects beyond the life of the proposed actions were not adequately

addressed. Suggestions were made that socioeconomic aspects of train/truck traffic and noise should be more fully addressed. Some commentors viewed the socioeconomic analysis as too simplistic, unfair, not objective, and/or pro-industry. Another commentor requested that non-market factors be considered in the economic analysis.

Some commentors disagreed with the delineations of the primary, secondary, and tertiary study areas; they contended that these areas are not representative of the appropriate geographic areas for assessing socioeconomic impacts. A number of commentors indicated that the socioeconomic information is not accurately characterized, does not cover consistent or appropriate time periods, and did not support observations and conclusions drawn from the data.

Some commentors stated that the importance of quality of life considerations to population and economic growth of the area was not adequately represented. The social values analysis was viewed by some as not supported by the data provided or based on false data. Some commentors indicated that portions of the impact assessment are in error, incomplete, require further justification, and/or are not validated by reference to prior historical experience.

2.16 Soils

There were no comments received on soils.

2.17 Subsidence

Several commentors questioned the validity of the subsidence model used in the analysis, especially regarding the angle of draw. Others wondered why no safety factors were given. There were concerns that a mining induced seismic event could trigger landslides that could impact Terror Creek, Terror Creek Reservoir, Hubbard Creek, and the Curecanti-Rifle 230/345 kV electric transmission line. Other commentors asked who would assume the liability of subsidence and how would third parties be compensated in the event of impacts from subsidence.

2.18 Support/Opposition

There were numerous comments received expressing either support or opposition to the coal leasing and exploration license. Some commentors commended the BLM and Forest Service for the comprehensive EIS; other commentors said the Draft EIS was seriously flawed and should be completely rewritten. There were commentors who requested the No-Action Alternative be selected. Others preferred one of the action alternatives.

2.19 Surface Water

Several commentors requested a lease stipulation for an augmentation plan prior to mining in order to protect water rights on and adjacent to the Iron Point Lease Tract. Others wanted stream flow monitoring for 50 years after cessation of mining activities. One commentor worried that logging in the Terror Creek watershed would influence stream flow and water quality.

2.20 Terrestrial Wildlife

Concern was expressed related to potential increases in road density from exploration and mining activities, and the possible impacts to big game habitat through increased access. One commentor asked for clarification regarding potential habitat for loggerhead shrike and the possible presence of this species.

2.21 Transportation

There were several comments about the need for additional information on existing railroad-highway grade crossings along the North Fork Branch. Several commentors suggested that private crossings need to be addressed in the EIS as well as public crossings. Several commentors suggested that additional detail be obtained about the railroad crossings in the city of Delta. There were requests for additional information on safety features that could be added to the existing railroad/highway crossings that could prevent accidents.

Several commentors questioned the ability of the existing North Fork Branch railroad line to handle the projected coal tonnage from three longwall mines. One commentor asked if the railroad was planning to install two lines as in the Powder River Basin of Wyoming. Some commentors expressed concern that a new siding could block primary access to Redlands Mesa. There were miscellaneous comments about ongoing upgrades to the railroad line and how such upgrades could effect train speed on the line.

Comments were also received about the need to eliminate coal truck traffic by constructing a new coal loadout for the Bowie No. 2 operation. Some commentors questioned how the highway accident rate could decrease with increased traffic. There were comments that focused on the need for peak traffic information rather than the average traffic information. Many commentors expressed concern about the risk of increased accidents on State Highway 133 due to coal truck traffic. There were comments regarding the need for additional maintenance on the highway with the increased traffic.

2.22 Vegetation

There were no comments received on vegetation.

2.23 Wetlands

Concern was expressed that a complete delineation of jurisdictional wetlands and Waters of the U.S. has not been completed for the lease tracts, exploration area, and other associated areas of interest. One commentor noted that the Draft EIS text over estimates the extent of wetlands and Waters of the U.S. on the project area, as well as the effects that mining would have on wetlands, particularly with regard to subsidence. Other commentors noted that the U.S. Army Corps of Engineers only deals with jurisdictional wetlands and Waters of the U.S. One commentor noted an inconsistency between the wildlife and wetland sections and asked how the habitat value of the southwestern willow flycatcher was considered.

3.0 LIST OF RESPONDENTS TO THE Draft EIS

This section provides a listing of the individuals, organizations, government agencies, and elected officials who commented on the North Fork Coal Draft EIS. There were nearly 70 letters or oral speakers that submitted comments on the North Fork Coal Draft EIS.

3.1 Written Comments

3.1.1 Government Agencies

The following government agencies provided comments on the Draft EIS:

- U.S. Department of Commerce, Office of the Under Secretary for Oceans and Atmosphere
- U.S. Geological Survey
- Department of Energy, Western Area Power Administration
- U.S. Environmental Protection Agency
- Department of Health & Human Services, Centers for Disease Control and Prevention
- Colorado Department of Transportation
- Colorado Department of Public Health and Environment, Air Pollution Control Division
- Gunnison County Commissioners
- Delta County Commissioners (#1 - General EIS Comments)
- Delta County Department of Health
- Delta County Commissioners (#2 - Work by North Fork Coal Working Group)
- City of Delta

3.1.2 Organizations and Businesses

Letters on the Draft EIS were submitted by the following organizations and businesses:

- Delta-Montrose Electric Association
- Black Paw Ranch (Lawrence Mos[illegible])
- High Country Citizen's Alliance
- Bowie Resources Ltd. (Letter #1)
- Jackson & Kelly PLLC
- Terror Ditch and Reservoir Company
- Citizens Coal Council
- Mountain Coal Company (Letter #1)
- Mountain Coal Company (Letter #2)
- Oxbow Mining, Inc. (Letter #1)
- Oxbow Mining, Inc. (Letter #2)
- Oxbow Mining, Inc. (Letter #3)
- Western Slope Environmental Resource Council (Letter #1)
- Western Slope Environmental Resource Council (Letter #2)
- Orf & Orf, P.C.
- Mary Chapman for Delta/Montrose/Ouray Public Lands Partnership
- Hofgard & Associates, P.C.

3.1.3 Individuals

The following individuals provided comments on the Draft EIS:

- Anderson, Kay
- Arrowood, Nancy
- Behrensmeyer, Chuck
- Dangremond, Shari
- English, John
- Helleckson, Brent
- Herbert, Lawrence
- Higman, Sandra
- Jackson, Elliot
- Laverty, Denise
- McKenna, Michael
- McGarry, Jane
- McGuinnes, Ray
- MacNulty, Joy
- Miller, Carl and Debbie
- Moore, Claire
- Moore, John
- Murphy, Rita
- Nicholoff, Gretchen
- O'Shaughnessy, Meg
- Peters, Anthony
- Rolfsen, Lea
- Rudin, Richard
- Stanton, Campbell
- Tembrook, Bill
- Wolcott, Andrew

There were two commentors that requested confidentiality; their names were omitted from the above list, but we considered their comments.

3.2 Verbal Commentors

The following individuals provided verbal comments at the October 14, 1999 public hearing at the Hotchkiss High School in Hotchkiss, Colorado:

- Robin Nicholoff
- Richard Ruden
- Paul Fritzler - Oxbow Mining
- Jim Ventrello
- Tom Morse - Western Slope Environmental Resource Council
- Brent Helleckson
- Joyce Scroggins
- Ted Hayden - Delta County Commissioner
- Brenda Holloway
- Steve Hinchman - Western Slope Environmental Resource Council
- Rich Englehart - Delta City Manager

4.0 COMMENT RESPONSES

Upon receipt of the comment letters and the hearing transcript, the BLM and Forest Service assigned a unique number to each comment letter or to each individual speaker at the public hearing. The unique numbers track sequentially (1, 2, 3, 4, etc.) and are centered at the top of each page. Section 5.0, Comment Letters/Hearing Transcript, contains all comment letters and the hearing transcript from the October 14, 1999 public hearing.

Distinct and individual comments in the comment letters/hearing transcript have been bracketed as set forth in Section 5.0, Comment Letters/Hearing Transcript.

Comment responses are included below.

1.1 Comment noted. We reviewed your web site and found there are no geodetic control monuments within the area to be affected by exploration or mining activities. The closest geodetic control points are located along the North Fork of the Gunnison River and on Electric Mountain more than 5 miles north of the exploration license boundary.

2-1 There is minimal faulting within the area. (See Section 3.3.2.1, General Geology.) There is one fault known to exist in the D seam just south of the Iron Point tract boundary between Sections 9 and 4 in Bowie Resources' fee coal. The fault trends N43°W, is offset vertically approximately 18' down on the south side, and is projected to cross into federal coal in the west half of Section 9 about 240' south of the center of the east-west boundary line between Sections 9 and 4. This fault has an offset of great enough magnitude to discourage crossing with development entries and totally thwart crossing with a longwall. It would dictate the orientation of mine workings where ever it was present. It should be noted that vertical extent (depth) of this fault is not known, and it may be more or less severe in the B seam, if it is present at that depth at all.

There were some faults encountered by US Steel during the period that they mined the B and C seams in what is now the Elk Creek tract, but those faults were in the 1' to 3' range, and hampered mining only very little and never dictate mine orientation. Again, extent and severity of these faults in the E seam above cannot be definitely projected, but is a reasonable indication that no severe faulting exists in the E seam.

Faulting can affect longwall mining. Longwall mining is best suited in uniform coal deposits with little or no significant faulting. Longwall equipment (shields, shears, face conveyor) cannot easily negotiate through coal beds that are highly faulted. In fact, the efficiencies of longwall systems suffer in coal beds that are faulted. Depending on the type of fault and the amount of vertical displacement encountered in the fault, longwall equipment may have to be dismantled and moved from one side of the fault to the other side.

We do not expect faulting to be a total impediment to longwall mining in the Iron Point and Elk Creek Coal Lease tracts. Coal seams in these lease tracts are amenable to longwall extraction techniques.

2-2 Zones of higher hydraulic conductivity are generally associated with faulting. (See Section 3.6.2.2, Mine Site Hydrogeology.) Water will preferentially flow through these zones, if these areas of high hydraulic conductivity are in contact with surface or ground water.

2-3 If mining intercepts saturated fault zones, groundwater flow will likely be transmitted to the mine workings. Several faults have been mapped in the lease tract areas. One fault is located along Terror Creek and several others have been mapped east of Terror Creek (Dunrud, 1989). However, recent exploration drilling data and geophysical surveys conducted by Bowie do not indicate major faulting in this area (Greg Hunt, personal communication, 1999). At this time, it is not anticipated that significant groundwater inflow will occur during mining. If significant mine inflows are encountered during mining through a fault zone, the mine operator would pressure grout the water-bearing fractures to stop or limit water inflow to the mine void. This type of mitigation measure would be necessary for environmental reasons, as well as for mine safety.

2-4 Isopach maps are available for public review as part of the companies lease-by-application (LBA) documents. Fracture and cleat orientation maps have not been generated. The coal beds in the regional generally display fracturing running NE and NW.

2-5 The recoverable tons were calculated using BLM criteria for longwall mining as derived from in-place, total original coal resource. The reason for eliminating some seams from consideration for leasing and the subsequent method of calculating reserves for the minable seams is available in the Tract Delineation Report that is part of the case file. In summary, there are approximately 69 million tons in-place, 50 million minable tons and 21 million recoverable tons.

2-6 See response to comment 2-5. In the D seam, there are approximately 61 million tons in-place, 34 million tons and 19 million recoverable tons. In the B-2 seam, there are approximately 44 million tons in-place, 29 million minable tons and 17 million recoverable tons.

2-7 At the time of the publishing of the Draft EIS, it was known that coal resources in the northwest portion of the Iron Point tract were affected by intrusion, but not to what extent. Since the time of that publication the extent of those intrusions have been better mapped, and the Final EIS has been revised accordingly.

2-8 Coal bed methane is more sufficiently addressed in the Final. EIS. Please see Section 3.3, Geology.

2-9 Although rock types and individual thicknesses are important to mine-induced caving, void filling, and fracturing, we feel that this is a site-specific aspect that can be appropriately dealt with at the mine permitting stage when this level of detail may be needed. The typical geologic cross-section shown in *Figure 12, Typical Geologic Cross-Section*, is considered adequate at the EIS stage.

2-10 The subsidence factor of 70 percent was determined in Section 4.2, Factors Controlling Subsidence, in *Appendix F, Overview of Underground Coal Mining*, on page F-6, by measuring a maximum subsidence of 7 feet for a 10-foot mining thickness. Using a 70 percent subsidence factor, maximum subsidence for a13.5 foot mining thickness would be 9.45 feet or 9.5 feet. The "9.8 feet" found in the third paragraph of Section 4.3, Prediction of Subsidence, (page F-7) of *Appendix F, Overview of Underground Coal Mining*, is a typographic error. We have corrected this error in the Final EIS. See *Appendix K, Subsidence Evaluation*.

2-11 The burn limits are determined by a combination of known drill hole data and best estimation using known burn limits for seams in the region.

2-12 We retained the services of C. Richard Dunrud to aid us in geologic interpretations and subsidence predictions for our EIS work. Mr. Dunrud is aware of the references that you cited in your comment. For example, *Figure 11, Geologic Hazards Map*, was updated from previous geologic mapping completed by C. Richard Dunrud.

3-1 Five access entries under the Curecanti-Rifle 230/345 kV electric transmission line were analyzed for subsidence impacts in Section 8.2.1, Driving Entries Beneath Terror Creek in *Appendix K, Subsidence Evaluation*. No subsidence was predicted from either (1) analysis above individual mine openings or (2) pillar stability analysis. Monitoring likely would be required at the permitting stage to verify these subsidence predictions both during mining and when mining is completed. Also see responses to comments 3-3 and 3-10.

3-2 See response to comment 3-1.

3-3 The Curecanti-Rifle 230/345 kV electric transmission line will be protected from subsidence under all action alternatives. No mining related surface disturbance will be allowed within 100 feet of the outside of the powerline right-of-way, which is 120 feet wide. This stipulation is set forth as Criterion in *Appendix C, Unsuitability Analysis Report - Iron Point Coal Lease Tract*. This protection zone is shown on *Figure 5, Alternative B*, *Figure 6, Alternative C*, and *Figure 7, Alternative D*.

The powerline protection zone does not prevent mining activities beneath the transmission line and identified buffer zone; however, this stipulation does restrict full scale coal extraction in this area. Under this stipulation, an operator could develop mine entries beneath the Curecanti-Rifle powerline, but, in order to prevent subsidence, an operator would be prohibited from any pillar extraction which could lead to surface disturbance by subsidence activities.

Any operator that proposes underground coal mining on the Iron Point Coal Lease Tract must also meet the requirements of the Colorado DMG *and the OSM as set forth in Appendix B, Agency Jurisdictions (Permits and Approvals)*. Under Colorado DMG regulations, an operator must comply with Section 2.05.6(6), Subsidence Survey, Subsidence Monitoring, and Subsidence Control Plan; and the performance standards under Section 4.20, Subsidence Control.

We also refer the commentor to Section 8.3, Driving Entries Beneath the Curecanti-Rifle 230/345 kV Powerline, in *Appendix K, Subsidence Evaluation*, of the EIS document.

3-4 During permitting work, the Colorado DMG and OSM require detailed mine plan maps and will assess the potential of subsidence to impact surface facilities, such as the Curecanti-Rifle transmission line. Based on the foreseeable development scenario, no longwall mining is planned beneath the landslide area you identified in Section 5, T13S, R91W. This area is outside the boundaries of the designated Iron Point Coal Lease Tract and existing Federal Lease C-37210 boundaries (see *Figure 3, Historical Mines and Federal Coal Lease Locations*).

Five mine access entries may be driven in this area (their exact location is not yet known), however, as addressed in response to comment 3-1, no subsidence is predicted as a result of these entries.

3-5 See response to comment 3-3. The terms "restricted" or "limited" refer to the stipulation that any mining activities could not result in any subsidence that would materially damage the Curecanti-Rifle transmission line.

The actual location of any mining activities beneath the right-of-way has yet to be determined. This information would be required for permit applications submitted to the Colorado DMG and OSM.

3-6 See response to comment 3-5.

3-7 Refer to response to comment 3-3.

The phrase "no subsidence" does not mean there would be "no subsurface mining activities" beneath the Curecanti-Rifle transmission line's 125-foot right-of-way. Mining activities could occur so long as there is no subsidence that causes material damage to the transmission line. See response to comments 3-3 and 3-5.

3-8 We did consider the impacts to the Curecanti-Rifle transmission line as a result of subsidence. Based on this consideration, we established a subsidence protection zone as detailed in response to comment 3-3.

In assessing alternatives, we weighed a number of factors. With respect to limiting the size of the Iron Point Coal Lease Tract, we chose to eliminate this alternative from detailed evaluation because we believed both the necessary technology and regulatory constraints were available to prevent subsidence under the transmission line. See response to comment 3-5.

Based on your comment, we have expanded the discussion in Section 2.8.4, Limit the Size of the Iron Point Coal Lease Tract to Avoid Coal Beneath Terror Creek and Curecanti-Rifle 230/345 kV Electric Transmission Line. Our revision of this section is designed to provide further clarification to the potential environmental, safety, and economic impacts associated with rebuilding, rerouting, or replacing damaged portions of the Curecanti-Rifle transmission line.

3-9 Appropriate stipulations regarding subsidence will be incorporated into the preferred alternative, if one of the action alternatives is selected. In addition, such subsidence protection is also a requirement of the regulations of the Colorado DMG and the OSM as part of their permitting process. See response to comment 3-3.

3-10 The unsuitability criterion requires that the powerline will be protected and not impacted by subsidence due to mining. The stipulation will be attached to the lease and the lessee would be responsible for protection of the powerline and for any damages to the powerline that may result due to mining of the lease.

4-1 The table in *Appendix B, Agency Jurisdictions (Permits and Approvals)*, has been modified for clarity as suggested. Also see response to comment 4-3.

4-2 The process described in the comment is the procedure that will be followed if the leases are approved and the leases awarded. Further discussion of the procedures to be followed and authorizing agency is given in Section 1.5, Decisions to be Made, and *Appendix B, Agency Jurisdictions (Permits and Approvals)* of this EIS.

4-3 We have reviewed and clarified, as appropriate, our discussion of mitigation and monitoring activities for surface water, ground water, wetlands, noise, and transportation. Based on your suggestion, we have discussed mitigation and monitoring measures with the following two goals in mind:

1. The identification of mitigation measures that would reduce potential adverse impacts; and,

2. Described the means to implement such mitigation measures.

4-4 See response to comment 4-3. We have added additional discussion about the control of noise in Section 3.12.5, Possible Future Noise Mitigation, of the Final EIS. In addition, we have added a discussion about transportation mitigation and monitoring in Section 3.14.5, Potential Transportation Mitigation and Monitoring, of the Final EIS.

In addition, in these sections, we have assessed the probability of implementing mitigation measures, as well as the likelihood that such mitigation measures would be adopted and enforced by responsible agencies.

4-5 We have updated the Final EIS to clarify how the mining operations would comply with the state noise limits to minimize noise impacts to the surrounding community.

4-6 Comment noted. We have carefully reviewed your comments and worked to add additional discussions regarding mitigation measures. See responses to comments 4-3 and 4-4.

4-7 The Cumulative Hydrologic Impact Assessment will be performed at the time of mine permitting. It's preparation falls under the authority of the Colorado DMG as the agency with primacy for enforcing the terms of the Surface Mining Reclamation and Control Act (SMCRA).

4-8 The EIS team is aware of the potential ramifications of the lack of a formal wetlands delineation. This situation was discussed during EIS scoping and preparation activities and was one of the main reasons that members of the EIS team conducted a field reconnaissance. The Forest Service and BLM were of the opinion that with the limited wetland acreage involved, limited surface disturbances proposed, and the potential for mitigation, the EIS could proceed without a formal delineation being completed.

4-9 Your suggested footnote will be added to the appropriate tables. Suggested mitigation measure will be added to Section 3.14.5, Potential Transportation Mitigation and Monitoring.

4-10 We have made this change as recommended by your comment.

4-11 In Section 4.14.4.4, New Rail Loadout Adjacent to Bowie No. 2 Mine, we have discussed the benefits of moving the rail loadout closer to the Bowie No. 2 Mine.

4-12 As stated in *Appendix E, Mining Economics*, the evaluation of a coal mining project is a complex and detailed activity. Similarly, the costs of constructing a new train loadout facility and the possible savings obtained using railroad versus truck haulage are equally complex.

There may not be any savings with respect to rail versus truck haulage. This would depend on a number of factors, primarily involved with capital cost recovery. Capital costs for the construction of a coal loadout facility would include property acquisition, engineering design, environmental studies, permitting acquisition, as well as the costs associated with construction of a railroad spur, coal storage facilities, and coal loadout facilities. Capital costs can be impacted by available room for such a facility, weather conditions, environmental constraints, and permitting requirements. The capital costs recovery is dependent on a number of facts including depreciation schedules, the annual coal stripped, and the life of the mine.

5-1 Comment noted.

5-2 See Section 6.1, Clean Water Act, of *Appendix B, Agency Jurisdictions (Permits and Approvals)*. In this section, we acknowledge that Section 3.11 of the Clean Water Act establishes requirements relating to discharges or spills of oil or hazardous substances. EPA also has established requirements for the preparation of a Spill Prevention Control and Countermeasure Plan that must be kept on file at the mine.

5-3 Sections 3.6, Groundwater and 3.6.2.1, Regional Hydrogeology, describing the Paonia municipal water system have been revised. The Paonia water supply is derived from springs located on Lamborn Mountain, well outside the area of potential impacts of mining, not from wells installed along the North Fork of the Gunnison River. There are no municipal water rights located within the study area along the North Fork of the Gunnison River. See *Table 3.5-3, Water Rights Summary for Wells, Springs, and Surface Water*. If the Iron Point and or Elk Creek tracts are leased, appropriate mitigation and monitoring would be required for the permitting process with the Colorado DMG and OSM.

6-1 We understand that there may be peak volume traffic on State Highway 133. Unfortunately, peak hour volume is not available from the Colorado Department of Transportation. This agency simply reports traffic as ADT - average daily traffic for a 24-hour period.

6-2 Coal truck traffic from the Bowie No. 2 Mine to the Bowie No. 1 Loadout would be on a 24-hour (round-the-clock) basis.

6-3 Preparing detailed financial analyses on transportation options is outside the scope of this EIS.

7-1 Notes from this meeting were shared with all participants and made part of the project record. Please note that there will not be additional public comment opportunity on the Final EIS, and that this is an EIS, rather than an environmental assessment.

7-2 We have upgraded the air quality discussion, including discussion on visibility in the Final EIS in Section 3.1, Air Quality/Climate. We have also included a stand-alone appendix in the Final EIS - referred to as *Appendix M, Air Quality Report*. This new appendix includes a modeling detail on air quality aspects of the proposed coal mining, including information on possible visibility impacts.

7-3 The discussion of PM_{10} impacts near the fencelines has been expanded in the Final EIS. See response to comment 7-2.

7-4 The March 1999 event has been described in the Final EIS.

7-5 The possible installation of downwind monitoring stations has been discussed in Section 3.14.5, Potential Transportation Mitigation and Monitoring, of the Final EIS.

7-6 Discussions of prevention of significant deterioration (PSD) increment consumption have been deleted from the Final EIS.

7-7 Comment noted.

8-1 Comment noted.

8-2 We agree that there has been a great deal accomplished by the community working together through both the Coal Working Group, and other means (see also response to comment 25-7). The understandings arrived at can lead to successful solutions in the valley. We have individually examined each specific proposed measure in the draft of these agreements submitted as part of the public comment on the Draft EIS, and incorporated many of them into the Final EIS. These are displayed in the mitigation and monitoring sections for each resource in Chapter 3.0, Environmental Analysis. We further identify the entity or agency that would have authority to or ability to implement these measures, and discuss the effectiveness of each measure, if implemented. Those measures which are within the authority of the BLM or Forest Service to adopt, and which are adopted, are identified in respective Records of Decision (RODs).

The agencies do not believe it is proper; or wise, to incorporate into our Decision, as a body, the agreements being entered into between coal companies and the community, as either conditions of approval, or as requirements to be enforced by the agencies. To do so would create the expectation that the agencies be the enforcement agent of agreements that are outside its authority. The agreements have not been approved by any agent of the federal government. While many of the points of agreement may be perfectly legal as written, enforcement of them as condition of approval or consent to lease by the BLM or Forest Service would not be legal (see Methow Valley Citizens vs. Robertson - a decision of the Supreme Court). We are very supportive of the community's efforts to address the very real effects of expanded coal economy, but will not be drawn in as arbitrators. Please see RODs for specific mitigation measures that have been required.

See also responses to comment 11-6, 11-7 and 11-8.

9-1 Comment noted.

9-2 We have upgraded our discussion on mitigation measures for transportation in Section 3.14.5, Potential Transportation Mitigation and Monitoring, in the Final EIS. Where possible, we have estimated costs for certain mitigation measures, specifically involved with railroad grade crossing safety features and grade separation measures.

9-3 As shown on *Table 13.14-5, Unit Train Traffic Frequency on North Fork Branch*, the average interval between trains lessens as coal shipments from the mines in the North Fork of the Gunnison Valley increase. We acknowledge that with increased train traffic, there would be a subsequent increase in potential delays at road/railroad crossings.

Working with officials from the city of Delta, we have obtained additional information regarding the railroad crossing at Highway 50 in Delta. We have added additional discussion within Section 3.14.3.2, Direct Effects Common to All Action Alternatives,

addressing railroad crossings within the city of Delta, and specifically the railroad crossing at Highway 50 in Delta.

9-4 The experience of the socioeconomic consultant is that "generic models" such as IMPLAN provide data and analysis that can be readily applied to an individual county or grouping of counties anywhere in the U.S. Production data are specific to each county and updated annually.

The IMPLAN model also offers the advantage of being unbiased. It was developed not by an industry trade group but by the University of Minnesota for the Forest Service. Currently, the model is run by a for-profit organization in Minnesota.

Generic models such as IMPLAN can and do generate erroneous results at the local level when local input or production function data pertinent to a particular county's situation is not available from federal government sources. This is a particular problem when the small number of firms at the local level results in non-disclosure of data by federal data sources at the U.S. Department of Commerce.

In these situations, two options are available: (a) incorporate better locally-generated data into the IMPLAN model using customization features available with IMPLAN, or (b) use a locally-generated model.

The REDP and Local Economic Information Forecasting Assistance (LEIFA) is not an economic impact model. Rather, the REDP and LEIFA process provides data that are useful in the economic modeling process using IMPLAN or another modeling source.

A conversation on December 3, 1999 with the Colorado Department of Local Affairs and State Demographer indicated that REDP and LEIFA provides raw data and identifies "basic" versus "non-basic" industries. Furthermore, the State Demographer indicated that IMPLAN would be the appropriate tool to use in measuring economic impacts because it can: (a) measure impacts specifically associated with the coal mining industry; (b) provides greater detail; and (c) the U.S. Forest Services is required to use IMPLAN. Furthermore, BLM is considering using IMPLAN agency-wide instead of on a case-by-case basis.

Due to the interest in having the socioeconomic discipline apply LEIFA data to estimate economic impacts related to the proposed two coal mine lease tracts (i.e., Iron Point and Elk Creek), the IMPLAN impact model has been rerun to estimate economic multipliers associated with this data set.

The IMPLAN model was adjusted in consultation with Minnesota IMPLAN Group to include LEIFA employment and earnings income data. Output and other value-added data was adjusted to 1997 dollars, as the original model used for the Draft EIS was in 1996 dollars (the most up-to-date data available).

The results of the LEIFA adjusted model do not appear to materially alter the socioeconomic analysis in the Draft EIS. Even though application of the LEIFA data does not produce the same results as the original IMPLAN data, the No-Action Alternative results are within 10 percent of the Draft EIS calculated IMPLAN results. The LEIFA data set appears to be at variance with other standard published data sources.

The Draft EIS concluded that the action alternatives associated with the two proposed lease tracts would not be expected to generate additional employment or income but

rather a maintenance of current conditions. This conclusion is not altered by inclusion of the LEIFA data set.

Based on the relatively minor differences in economic impacts produced by the IMPLAN data versus LEIFA data and the use of more standardized data sets with IMPLAN, the Draft EIS estimates of economic impacts are not altered for the Final EIS. However, the methodology section of the Final EIS has been expanded to include language that discusses the LEIFA modeling undertaken as part of the comment response process and Final EIS document preparation. This involves including a summary of LEIFA results in Section 3.15.3, Environmental Consequences, of the Final EIS and a more detailed discussion of LEIFA data sets and impact modeling with *Appendix L, Socioeconomic Report*.

We have performed a more detailed review of REDP and LEIFA data or other pertinent sources to incorporate as a customized run of the IMPLAN model. We have worked with Colorado Department of Local Affairs and State Demographer and updated our discussion in Section 3.15, Socioeconomics, in the Final EIS, to account for this additional site-specific information.

9-5 As identified from the scoping process, issues were addressed in Section 1.8.11, Socioeconomics, of the Draft EIS, in summary form at Section 3.15, Socioeconomics, of the Draft EIS, and in further detail by *Appendix L, Socioeconomic Report*. The Draft EIS specifically addresses topics of school enrollment and facilities, medical services, infrastructure and other public services.

Existing conditions for these items are discussed as part of Section 3.15.2.6, Community and Public Services. Environmental consequences are addressed for each alternative in Section 3.15.3, Environmental Consequences.

Further response is precluded without additional detail regarding specific areas suggested for more detailed analysis.

9-6 Comment noted.

9-7 Please see response to comment 8-2.

10-1 Comment noted.

10-2 Wording changes have been incorporated into the revised Section 3.1, Air Quality/Climate of the Final EIS.

10-3 We suspect there have been environmental changes since the first coal was mined in the North Fork Valley over 100 year ago. However, we have no accurate way of assessing such changes and the discussion of such is outside the scope of this EIS.

10-4 The cracks were observed by C. Richard Dunrud, a Registered Professional Engineer in the State of Colorado and a geologist for the USGS at the time of the observations. The observations and conclusions are accurately and correctly documented in pages K-12 to K-13 of the Draft EIS. Few other formal subsidence studies have been performed for this coal field. To Dunrud's knowledge, no loss of water has ever been reported. The Colorado DMG requires hydrologic and subsidence monitoring over permitted underground mines in the North Fork Valley. In addition, the BLM and Forest Service have knowledge of subsidence in the area.

The subsidence predictions in *Appendix K, Subsidence Evaluation*, are based on the knowledge and experience of C. Richard Dunrud (an expert in western U.S. subsidence), as well as knowledge and models used by the National Coal Board in Great Britain, a recognized governmental expert on subsidence, and others. See Section 9.0, References Cited, in *Appendix K, Subsidence Evaluation*.

10-5 In Section 3.14.3.2, Direct Effects Common to All Action Alternatives, we reported that there would be an increased potential that emergency vehicles could be delayed in the future with increased railroad traffic. Responding to your comment, we inventoried all public rail/road crossings along the North Fork Branch in Delta County. Part of this inventory was to assess possible alternative routes in the event that a particular public crossing was blocked.

The results of this inventory work, including field inventory data sheets, will be made part of the administrative record for this EIS, and can be viewed at the BLM office in Montrose. A copy of the inventory work has been submitted to Delta County for information and future reference.

10-6 Comment noted.

10-7 The typographical errors you listed have been corrected.

10-8 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

10-9 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

10-10 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

10-11 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

10-12 A word was left out of the sentence on page S-8. The first bullet should read, "Dewatering of the D coal seam could decrease flow on some sections of Hubbard Creek, which are fed from the D seam."

10-13 The location of the Paonia water supply has been addressed in response to comment 5-3. The Pitkin Mesa water supply system is outside the area of potential mine induced impacts.

10-14 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

11-1 We recognize the efforts and hard work of the NFCWG to seek common ground and to identify solutions to the problems identified at the local level. As federal agencies, the BLM and the Forest Service recognize and encourage the efforts of groups like the NFCWG in addressing the off-site impacts of concern to the local community. See Section 1.7.3, Community Efforts, in the Final EIS.

We further recognize that a great deal has been accomplished by the community working together through the NFCWG, and specifically through the work to develop a Memoranda of Understanding (MOU) which formalizes the purpose and protocol for this group. We recognize that the attached MOAs submitted during the comment period are a draft and remain dynamic at this time; however, we are confident that MOAs will be finalized in the near future. The understandings arrived at during meetings and working sessions of the NFCWG will lead to successful solutions in the North Fork Valley on issues important to

the community. We further believe that our Final EIS has been improved as a result of the comments received from the NFCWG.

11-2 Community-based efforts, such as taken by the NFCWG, can be quite helpful and constructive at resolving issues as the local level. As such, we recognize and applaud such efforts. See response to comment 11-1.

We have individually examined the proposed measures from the draft MOA which you have attached as part of your public comment on the Draft EIS. The agencies have incorporated many of the NFCWG suggestions into the Final EIS. These are principally displayed in the mitigation and monitoring sections of Chapter 3.0, Environmental Analysis. As part of our review of mitigation and monitoring measures in Chapter 3.0, Environmental Analysis, we have also identified the entity or agency that would have the authority to implement such measures, as well as discussed the effectiveness of each measure, if implemented. Those mitigation and monitoring measures that are within in the authority of the BLM or the Forest Service to adopt (and which are selected to be adopted) will be identified in our respective Records of Decision.

As stated in our response to comment 11-1, we realize that your draft MOA submitted with the comment letter are dynamic documents and are still being refined. The NFCWG has continued its discussion since the closure of the EIS comment period, and we understand that updated versions of the MOAs are available to the public upon request to the NFCWG.

As a matter of policy and practice, the BLM and Forest Service cannot incorporate comments (i.e., updated versions of your draft MOA) into the Final EIS beyond the Draft EIS comment closing date. However, as invitees to your group, we have answered questions and continue to be encouraged by your efforts. We believe the draft MOA included with your comments forms the essence of your pending agreement, and we further hope that your review of the draft MOA and the updates and revisions made for our Final EIS are beneficial to the work of your group. We are optimistic that mutually-acceptable agreements will be reached.

However, the BLM and the Forest Service do not believe it is proper, or wise, to incorporate into our RODs, as a body, agreements being entered into between coal companies and the community, as either conditions of approval, or as requirements to be enforced by the agencies. To do so would create the expectation that the agencies are the enforcement agency of agreements that are outside of its authority. Your MOAs have been negotiated by a group of individuals working outside the authority of the federal government. While many of the points of this agreement may be perfectly legal as written, enforcement of them as a condition of approval or consent to lease by the BLM or the Forest Service would not be legal (see Methow Valley Citizens vs. Robertson - a decision of the Supreme Court). We are very supportive of the community's efforts to address the very real effects of an expanded coal economy, but we will not be drawn in as arbitrators. Our Records of Decision will outline specific mitigation and monitoring measures that the BLM and/or the Forest Service believe appropriate to our authority.

11-3 The BLM and the Forest Service recognize the efforts of the NFCWG with regard to safety improvements at railroad crossings. Based on comments received on the Draft EIS, we have improved the discussion in the Final EIS for Section 3.14, Transportation. In addition, we have conducted an inventory of public crossings, starting with the G 50 Road railroad grade crossing west of Delta and continuing to the terminus of the North Fork Branch of the railroad near the West Elk Mine. This inventory work has been submitted to

Delta County with the intention of providing additional information that would be helpful to our EIS analysis as well as to the NFCWG.

11-4 We understand that there are numerous private crossings along the North Fork Branch. Approvals for such private crossings are made between private individuals and the railroad. As such, private crossings are not required to have advanced railroad crossing warning signs or other markings, as they are found on roadways not maintained by public authority. Nonetheless, the potential for accidents at these private crossings are similar to those that could occur at public crossings. We have added additional discussion about private crossings in Section 3.14.2.5, Union Pacific Railroad - North Fork Branch, and in Section 3.14.3.2, Direct Effects Common to All Action Alternatives.

Because private crossings do not have advance signs or other markings and such roadways are not maintained by public authority, we must highlight the fact that awareness and education become very important safety measures.

11-5 Comment noted. See also response to comment 11-1.

11-6 As stated in the response to comment 11-1, we recognize and applaud the efforts and hard work of the NFCWG. These efforts and hard work are reflected in the draft Exhibit A of your submittal. See also Section 1.7.3, Community Efforts, in the Final EIS.

11-7 The BLM and the Forest Service recognize the work of the "Bowie Subcommittee" of the NFCWG. See responses to comments 11-7a to 11-7n.

11-7a In Section 1.9.2.2, Present Coal Mining Activities, under "Bowie No. 2 Coal Mine", we acknowledge that, if Bowie is the successful bidder for the Iron Point Coal Lease Tract, the company has indicated its plans to permit a new coal train loadout adjacent to the Bowie No. 2 Mine. As explained in Section 3.14, Transportation, the construction of a train loadout adjacent to the Bowie No. 2 Mine would greatly reduce coal truck traffic on State Highway 133. Effects to State Highway 133 as a result of mining from the Iron Point Coal Lease Tract are identified in Section 3.14.3.2, Direct Effects Common to All Action Alternatives, in the Final EIS. Specific discussion regarding a new rail loadout is set forth in Section 3.14.4.2, New Rail Loadout Adjacent to Bowie No. 2 Mine, in the Final EIS. Potential construction of a new loadout at the Bowie No. 2 Mine to reduce the potential for accidents on State Highway 133 between the Bowie No. 2 Mine and the Bowie No. 1 Loadout are set forth in *Table 3.14-7, Potential Mitigation and Monitoring Measures for Transportation*, in the Final EIS.

11-7b In Section 3.14.2.4, Other Roads in the Region, we acknowledged that the Stephen's Gulch Road was in "fair" condition and required "routine maintenance". We further recognize that a portion of this road has received heavy traffic (both coal truck and employee traffic) as part of the operation of the Bowie No. 1 Mine. With funding from Bowie applied to improvements to the Steven's Gulch Road, we believe the overall "driveability" and general function of the road would be enhanced for its users, including local residents, recreationists, and others.

11-7c We recognize that the Bowie No. 2 Mine is an ongoing operation. See Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in This Analysis, and *Appendix G, Historic Coal Mining Activity*. As such, it is logical that if Bowie constructs a new loadout facility adjacent to the Bowie No. 2 Mine that certain interim steps would be required to facilitate ongoing operations, such as the use of the State Highway 133 stockpile as an interim coal storage area. We recognize that Bowie would

work with the appropriate governmental agencies, such as the Colorado DMG and the Colorado Air Pollution Control Division, regarding construction of a rail loadout adjacent to the Bowie No. 2 Mine, and such work would include the aspects of any interim coal storage areas. See Section 1.10, Agency Jurisdictions (Permits and Approvals) and *Appendix B, Agency Jurisdictions (Permits and Approvals)*.

Any State Highway 133 interim coal storage area, as well as a new Bowie No. 2 rail loadout, would probably be on private surface, and the reclamation of such a facility would be under the jurisdiction of the Colorado DMG. In addition, Bowie would work with the Colorado Air Pollution Control Division regarding emissions from stockpiles. We note in the subsection entitled "Ambient Air Quality Impacts Near Bowie No. 2 Mine and Oxbow Mines" found in Section 3.1.3.3, Effects Common to All Alternatives, in the Final EIS, that the "size of coal storage piles would be minimized to the extent possible given production and coal sales and shipment."

11-7d In Section 1.9.2.2, Present Coal Mining Activities, we acknowledge the temporary cessation of the Bowie No. 1 Coal Mine. This would include the west portal area of this operation. We recognize that reclamation of this site would be a benefit to the overall environment.

The suggestion that the BLM might restore the light use road in the bottom of Roatcap Creek is an issue that could be discussed with the BLM and the Colorado DMG as part of final reclamation plans for this site. In such plans, Bowie would have to submit reasons for restoring this light use road (i.e., demonstrate an ongoing long-term beneficial reason for leaving such a road as part of their reclamation work).

11-7e We recognize that Bowie has an area of coal reserves west of Terror Creek in Federal Coal Lease Tract COC-37210, which is known as the Bowie No. 1 Pod. We acknowledge that Bowie has proposed gaining access to these remaining coal reserves through entries to be driven under Terror Creek as part of the projected activities set forth in Action Alternatives B, C, and D in our EIS. See also response to comment 3-4.

Further, as outlined in the response to comment 11-7d, we acknowledge the positive benefits from reclamation work with regard to the goal of reclaiming the Bowie No. 1 east portal area. Also please note that Bowie is still obligated to the terms and conditions, including reclamation, of their federal coal lease and Colorado DMG permits.

11-7f Given the issue of coal train traffic in the North Fork Valley as addressed in Section 3.14, Transportation, we acknowledge the voluntary effort by Bowie to cap production at 5 million tons per year for the Bowie No. 2 Mine with its stated emergency provisions. We discussed production limitations in Section 2.2, Formulation of Alternatives, in the Final EIS. See also response to comment 15-1.

11-7g We acknowledged in *Table 3.14-7, Potential Mitigation and Monitoring Measures for Transportation*, that improving ingress and egress to the Bowie No. 1 Loadout would be a mechanism to reduce the potential for vehicle-coal truck accidents. We further recognize the value for Bowie to continue their coordination and communication with the Colorado Department of Transportation on highway safety. This would include the highway intersection of the new and old State Highway 133, as well as any access to a new rail loadout adjacent to the Bowie No. 2 Mine.

11-7h Comment noted. See response to comment 11-7a.

11-7i Comment noted. We discussed noise impacts in Section 3.12.3, Environmental Consequences, in the Final EIS, and presented mitigation and monitoring measures in *Table 3.12-1, Potential Mitigation and Monitoring Measures for Noise*, in the Final EIS.

Discussion on light and glare is set forth in Section 3.16, Light and Glare, in the Final EIS. Potential mitigation for off-site light and glare is set forth in *Table 3.16-1, Potential Mitigation and Monitoring Measures for Light and Glare*, in the Final EIS.

11-7j See response to comment 11-7e. Garvin Mesa roads are existing county roads; however, we know that coal truck traffic can create air quality, noise, and safety concerns. See Section 3.1, Air Quality/Climate, Section 3.12, Noise, and Section 3.14, Transportation. We applaud efforts of and industrial enterprises that minimize the use of secondary roads to prevent air quality, noise, and transportation impacts.

11-7k In "Noise Impacts from Surface Operations" in Section 3.12.3.2, Effects Common to All Alternatives, we stated that ventilation fans would generate a "white noise" sound. Where ventilation fans are located near residences, they can cause noise impacts which can be a nuisance. We believe that avoidance of drainages surrounding Garvin Mesa or providing noise level restrictions on exhaust fans, is a positive mitigation measure.

11-7l As noted in Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring, in the Final EIS, water replacement is required under the Surface Mining Control and Reclamation Act (SMCRA) and the Colorado Surface Mining Reclamation Act. We acknowledge that a water replacement plan for any injury that may be due to mining must be in place prior to mining in a particular drainage. See *Table 3.5-5, Potential Mitigation and Monitoring Measures for Surface Water*. See also response to comment 30-4.

The effects of subsidence beneath streams, including Terror Creek, have been discussed in Section 3.5.3.3, Effects of Alternative B and Section 8.2, Mining Beneath Streams, in *Appendix K, Subsidence Evaluation*. As part of Alternative D, the agencies would not allow any subsidence under either Terror Creek or Hubbard Creek. See Section 2.6.2, Alternative D - Offer Iron Point Coal Lease Tract With Stipulation That There be no Subsidence in Sensitive Areas.

11-7m Comment noted.

11-7n Comment noted. The idea of bonding as part of community and transportation mitigation could prove effective in providing assurances to community concerns.

11-8 Comment noted. Again we recognize the efforts of the NFCWG and others to develop an MOA to provide successful solutions to local communities. See Section 1.7.3, Community Efforts, in the Final EIS.

11-8a Comment noted. We have addressed the impacts of coal train transportation in Section 3.14.3, Environmental Consequences.

11-8b Comment noted. We have dealt with issues of train safety, access blockage, and restricted traffic flow at rail crossings in Section 3.14, Transportation. Issues of noise regarding rail traffic have been addressed in Section 3.12, Noise, and *Appendix N, Noise*. We applaud the efforts of the NFCWG in identifying funding sources and obtaining funds to provide for mitigation of grade crossing safety and noise issues. We hope the transportation inventory, design of the ranking form and cost estimates prove helpful in developing grant proposals.

11-8c Comment noted. See Section 3.14.5, Potential Transportation Mitigation and Monitoring, in the Final EIS.

11-8d We applaud the efforts of the NFCWG in identifying and pursuing funding sources for local community benefit. The agencies would of course help facilitate the NFCWG's grant proposals by providing any information we have or letters of support.

11-8e Comment noted. We believe the NFCWG could serve as a model for other communities in dealing with local impacts.

11-9 We acknowledge your worksheet for the railroad crossing tour. As a separate project, we have conducted a railroad grade crossing survey for public grade crossings from the G 50 Road west of Delta to the terminus of the North Fork Branch near the West Elk Mine. Our inventory work, complete with safety accident records, photographs, and maps, has been provided to Delta County. Observations made during the inventory appear to verify and substantiate that the higher priority crossings are included in the list. See Section 3.14.2.5, Union Pacific Railroad - North Fork Branch, in the Final EIS.

12-1 Comment noted.

12-2 See response to comment 9-3.

12-3 The agencies conducted an inventory of public grade crossings in Delta County, including the city of Delta, in December 1999. This inventory has been submitted to Delta County to support its work with the NFCWG. We also added information about grade crossings in the city of Delta in Section 3.14.2.5, Union Pacific Railroad - North Fork Branch, in the Final EIS. See also responses to comments 9-3 and 10-5.

12-4 Refer to response to comment 9-3.

12-5 We recognize that it may not always be possible for emergency vehicles to detour around blocked crossings. Also, refer to responses to comments 9-3 and 10-5.

12-6 We have expanded our discussion in Section 3.14.5, Potential Transportation Mitigation and Monitoring, in the Final EIS.

13-1 Comment noted.

13-2 Comment noted.

14-1 Refer to response to comment 11-3.

14-2 Refer to response to comment 11-3.

15-1 The BLM's current regulations provide for leasing-by-application (see comment response 25-7). Because the two applications came in at approximately the same time we must act on them in accordance with the applicable regulations. In the LBA process, the suggested alternative would be the same as the No-Action Alternative for one or the other of the leases. In the NEPA process we are obligated to consider a range of reasonable alternatives spanning literally hundreds of possible choices available to the decision-maker. Our alternatives range from No-Action on both leases to the granting of both. It is possible that one or both lease applications could be denied relying on this analysis. For the purposes of consideration of the reduced level of coal production that would result

from only one lease, the reader may reasonably understand what those would be by comparing the No-Action Alternatives in the EIS with the Action Alternatives. The alternative suggested by this comment is covered.

We do not consider setting production limits to be a "reasonable alternative", as defined by NEPA requirements for the following reasons. The BLM is mandated to ensure maximum economic recovery of coal (43 CFR 3480). Limiting coal production or the use of a mining technique other than longwall would not allow recovery of all mineable coal reserves resulting in waste or loss of the coal resources.

In addition, we believe setting production limits could result in an alternative that would be economically infeasible given today's longwall technology. We believe that both the iron Point and Elk Creek Coal Lease tracts would be mined by longwall techniques. See Section 2.8.2, Room-and-Pillar Mining (No Longwall Mining) of the Iron Point and elk Creek Coal Lease Tracts. A limited production alternative we believe would be economically infeasible in the current coal market, and therefore would not meet the purpose and need articulated in Chapter 2.0, Alternatives Including the Proposed Action. It is important to remember that coal is mined base don contracts for the product (see *Appendix E, Mining Economics*). Such a restriction would put the lessee at a severe competitive disadvantage both locally and in the broader coal market.

Further, setting production limits in any meaningful and/or fair way in the North Fork Valley goes well beyond the authority of the agencies. Of the three primary mines operating in the area, only two are expressing interest in the lease being considered. Imposing limits on two of the three mines would impose an unfair burden on those two mines and would be unreasonable and indefensible. In addition, all the mines are producing coal from fee lands that are not regulated by the BLM or the Forest Service. The decisions to be made through this process are limited to the publicly owned coal to be leased from the Elk Creek and Iron Point tracts. It would be inappropriate of the agencies to attempt to assert some broader control over what goes on in the North Fork Valley. We do not think that is the role of federal government.

15-2 Transportation mitigation measures are discussed in Section 3.14.5, Potential Transportation Mitigation and Monitoring. In addition, there is a likelihood that a new train loadout could be constructed at the Bowie No. 2 Mine, if Bowie is successful in obtaining the Iron Point Coal Lease. This would decrease coal truck traffic on State Highway 133.

15-3 Mitigation measures for train traffic, are addressed in Section 3.14.5, Potential Transportation Mitigation and Monitoring. Also refer to responses to comments 9-3, 10-5, and 11-3.

15-4 Potential impacts to agricultural water supplies are discussed in Section 3.5.3.3, Effects Common to All Action Alternatives. It is identified in this section and Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring, that a water replacement plan would be needed. A lease stipulation requiring water replacement will be included on each of the coal leases. A stipulation calling for a water augmentation plan will be placed on the Iron Point lease. Further, the preferred alternative identified on page S-5 of the Draft EIS includes the provisions of Alternative D that protect the water resources in Terror and Hubbard creeks from potential effects of subsidence.

15-5 Such information is already provided in Section 3.14.5, Possible Mitigation and Monitoring, of the Draft EIS.

15-6 We disagree that a reduced leasing alternative would automatically translate to a reduction in off-site impacts. As stated in Draft EIS Section 3.14.4.1, Issuance of Only One Lease, the mines in the North Fork Valley have all indicated their plans to increase coal production from their existing operations, regardless of the issuance of the Iron Point and Elk Creek Coal Lease tracts. Issuing only one lease tract does not guarantee there would be less coal production in the valley over the long term. Also see response to comment 15-1.

16-1 Both the Bowie No. 2 and the Sanborn Creek Mine are active mines. As such, the area mined, as shown on *Figure 3, Historic Coal Mines and Federal Coal Lease Locations*, will be somewhat dated.

16-2 Because five of the proposed holes were relocated and were not presented as part of the company's proposal in time to examine them in the Draft EIS, and for the public to have the opportunity to consider them and their potential effects, they can not be authorized at this time. The broader effects of exploration in the delineated exploration area have been dealt with, and the EIS can be relied upon to grant that area for exploration, including the specific hole locations that were originally proposed. Should the company wish to pursue the additional holes mentioned in this comment, additional site specific NEPA analysis would need to be completed and documented (likely in an EA) and a decision made based on that analysis. If the site specific NEPA uncovers significant resources, or difficulties that would indicate otherwise, a different decision could be reached. Approval of these holes would be subject to any additional mitigation measures indicated as needed through the site specific NEPA.

16-3 Comment noted.

16-4 Thank you for the information.

16-5 The blue wind direction shown in *Figure 8, Wind Rose for West Elk Mine*, is the "worst-case wind direction" to be used in accordance with EPA guidelines, It is not the prevailing wind direction. This distinction has been described in the Final EIS.

16-6 The monitoring locations shown on *Figure 14, Subsidence Potential Map*, have been adjusted.

16-7 The Terror Ditch Extension water rights, with appropriation dates of 01/01/1894 and 12/31/1976, were added to *Table 3.5-3, Water Rights Summary for Wells, Springs and Surface Water*, in the Final EIS. The headgate for this ditch is located in the Hubbard Creek drainage basin in T12S, R91W, Section 6, which is north of the northern boundary of *Figure 18, Water Rights Map*.

16-8 The monitoring locations shown on *Figure 19, Groundwater Hydrology*, have been checked and adjusted as necessary.

16-9 The Final EIS has been expanded to include a more detailed discussion of how noise is measured and described.

16-10 We have made the appropriate changes to Section 2.4.1, Alternative B: Iron Point Exploration License, in the Final EIS.

16-11 The appropriate changes have been made to *Table 2-4, Summary of Impacts by Alternative for Each Issue*, in the Final EIS.

16-12 The Final EIS has been revised to include the results of independent supplemental noise measurements that were taken by Bowie and Oxbow after publication of the Draft EIS.

16-13 We have expanded Section 1.3, Purpose and Need, in the Final EIS to better explain the overall purpose for the coal extraction. We disagree that Section 1.3, Purpose and Need, contained "extraneous information" as you stated. We believe that we outlined the purpose and need information for the applicants, BLM, and Forest Service.

16-14 A discussion on the development and selection of the alternatives is set forth in Section 2.2, Formulation of Alternatives. We have updated this discussion in the Final EIS to better clarify the process used by the ID Team.

16-15 In the Final EIS, see the discussions under the following sections:

- 1.3, Purpose and Need;
- 2.2, Formulation of Alternatives;
- 2.8.2, Room-and-Pillar Mining (No Longwall Mining) of the Iron Point and Coal Lease Tracts; and,
- 2.8.4, Limit the Size of the Iron Point Coal Lease Tract to Avoid Coal Beneath Terror Creek and Curecanti-Rifle 230/345 kV Electric Transmission Line.

16-16 Comment noted.

16-17 See response to comment 15-21.

16-18 As described in Section 1.7, Public and Agency Participation and Involvement, and as set forth in *Appendix N, Public Participation and Involvement in the Draft EIS* (added to the Final EIS), we maintained an open and informative process for the public, while keeping an administrative record that documents the EIS process.

16-19 We have attempted to work with all interested parties, including the applicants for the LBA tracts, throughout the preparation and release of EIS documents. We recognize that the No-Action Alternative does not mean an end to coal mining activities, but rather would be a decision simply to not offer the LBA tracts for leasing. NEPA requires that an EIS discuss the No-Action Alternative. See Section 2.3, Alternative A: No-Action Alternative. See also response to comment 29-12.

16-20 We are in agreement with this comment with the exception that NEPA calls on us to anticipate reasonably foreseeable development levels and to anticipate/disclose/consider the environmental effects of that level of development (coal production in this case). The levels of production that are reasonable to expect are discussed in Chapter 2.0, Alternatives Including the Proposed Action, where alternatives including the No-Action Alternative are described. These may or may not be simply "permitted" levels of production. Please also refer to response to comment 16-21.

16-21 This comment addresses itself to a "baseline" level of coal production and attempts to relate this to anticipated levels of coal production considered as assumptions to determine effects of alternatives in the EIS.

The term "baseline" comes from certain Clean Air Act analysis requirements, and from interpretation of the requirements of NEPA.

Under certain Clean Air Act requirements, levels of key pollutants are determined at a certain date and under certain assumptions. Future levels of pollution are then compared

with this "baseline" level. "Baseline" used int his sense establishes a single point in time value, usually prior to a proposal. The Air analysis in the Final EIS incorporates such an analysis.

Under NEPA, the No-Action Alternative is said to establish a "baseline" against which to consider the effects of action alternatives. This provides for a comparative understanding of environmental effects of possible decisions being considered, in the context of the past present, and future. "Baseline" used in this sense establishes a future condition that would occur should the agency choose to take no action (i.e., not proceed with a project, or in this case not authorize the proposed lease).

We concur with the commentor that the 2 million tons of coal per year produced by Bowie does not represent the future levels that would occur even under a No-Action (no lease) Alternative. The mine now operated by Bowie has a recently installed and is currently operating longwall system which is producing coal at a rate of approximately 5 million tons per year.

In the Final EIS, the No-Action Alternative, including assumptions regarding coal production associated with it, provides a baseline comparison such as called for in NEPA requirements. Recent levels of coal production (2 million tons from Bowie) are included as a matter of describing the past, and recent existing situation, and then anticipated levels of coal production under each of the decision scenarios described in Chapter 2.0, Alternatives Including the Proposed Action.

For the purpose of understanding the consequences of the decisions the agencies have to make, the real difference between a no-action decision and the decision to lease the Iron Point Coal Lease Tract is likely not in the levels of coal production per year, but RATHER IN THE DURATION OF COAL PRODUCTION FROM THAT MINE. This also is accounted for in the descriptions of alternative assumptions in the Final EIS.

This also presumes that whoever does successfully bid on the Iron Point Coal Lease Tract would operate it out of Bowie's current workings/portals/facilities.

16-22 We have reviewed the numerous citations that you have given us and made appropriate modifications in the Final EIS.

16-23 The issue of defining a "Year 1998 baseline" emission rates for the three mines in the project area has been described in the Final EIS. The year 1998 was selected as the baseline year for this EIS because 1998 was the start of the NEPA processes for the proposed actions. See also response to comment 16-21.

16-24 The Final EIS has been updated with the lists of operations at the Bowie and Oxbow mines that have air quality permits and permit limits.

16-25 We have reviewed the numerous citations that you have given us and made appropriate modifications in the Final EIS.

16-26 We disagree with your comment. We have developed the EIS document to provide information to both the public and to our agency decision-makers.

16-27 We disagree with your comment. We felt that it was important for the general reviewers of the EIS to understand that there are numerous regulations and permits required for coal mining in the state of Colorado. We believe that this information is helpful to the

reviewer in understanding the actual leasing process and how environmental impacts of mining are regulated beyond the leasing activities by a variety of federal, state, and local government authorities.

16-28 Information about the shipment of materials and supplies is useful for the determination of transportation impacts. In addition, this data would also be useful for the various technical disciplines in their assessment of impacts. For instance, the number of trucks transporting diesel fuel would be of interest to the fisheries biologists; in the event of a spill or accident, there could be impacts to the aquatic resources. Information regarding labor (employment) is vital to the socioeconomic assessment made in the EIS.

16-29 In the Final EIS, we have attempted to provide consistent production levels. In those cases where production levels vary, we have stated which levels are used and attempted to clarify the reason for using this level.

Predicting actual production levels for coal operations is difficult, if not impossible. There are a number of factors that can affect coal production, most notably coal markets. We have included discussion on coal markets, as well as the risk of coal mining, in *Appendix E, Mining Economics*.

16-30 We regret that you found the EIS "difficult to follow." We made every effort to develop a document that was well written and provided pertinent information. Our intent with the EIS document was to provide pertinent and necessary information to interested parties, and most specifically to the decision-makers. In the preparation of the Final EIS, we have worked to modify and clarify sections based on public comment.

16-31 Comment noted.

16-32 Comment noted.

16-33 See revised discussion in Section 2.2, Formulation of Alternatives, in the final EIS. Also see response to comment 15-1.

16-34 Comment noted.

16-35 Thank you for providing us an updated ACAD14 file with final drill hole locations.

17-1 Comment noted.

18-1 **Geologic Hazards:** The North Fork Valley area certainly contains many known landslide and rockfall areas, as shown on *Figure 11, Geologic Hazards Map*. This figure documents that numerous landslides have even occurred within the last 25 years near mining areas and also in areas remote from any mining.

Angle of Draw: As stated in *Appendix K, Subsidence Evaluation*, Section 7.4, Draw Angle, the angle of draw has been documented to range from **8 to 21 degrees** in the Somerset room-and-pillar mine and from **9 to 18 degrees** at the West Elk longwall mine. The well-documented and well-accepted mining practice is to use the local range of values from adjacent mining areas. Geologic mapping in the lease tract areas record only steeply-dipping to vertical faults, fractures, and joints. (Dunrud, 1989). See Section 3.3.2.1, General Geology. Values from other mining areas that are in different geologic environments are used only for comparisons.

We visited with Rick Mills, the Environmental Manager of Twentymile Coal Company, about the occurrence of a 63 degree angle of draw at the Twentymile Mine, which is an underground coal mine in northwest Colorado. Longwall mining techniques are used at this operation. Mr. Mills told us that none of the extensive subsidence monitoring at the Twentymile Mine has ever revealed such an occurrence.

We further visited with Pete Swanson, the consultant that described the possibility of a 63 degree angle of draw at the Twentymile Mine; he reported to us that he had observed cracking in a county road near the mine and merely correlated the location of the cracks back to the known position of the underground mining at the Twentymile Mine in his field notes. No specific measurements or analysis were completed. Mr. Swanson indicated that it was merely a casual observation, and that he is not certain that the cracking was indicative of subsidence influence along some gently-dipping fault, or merely the result of a localized natural geological phenomenon unrelated to the mining.

According to Briggs (1929, p. 22 in Dunrud, 1998, p. 101), gently-dipping faults commonly increase the angle of draw to essentially the dip of the fault, whereas, steeply dipping faults commonly decrease the angle of draw (from a vertical reference). Only steeply-dipping structural features have been observed and mapped in the coal bearing strata of the North Fork area. (Dunrud, 1976) These features therefore will very likely cause the angle of draw to be within the 9 to 18 degree range measured at the West Elk longwall mine, where only steeply-dipping structural features also occur. Given the known geology of the North Fork area with its steeply dipping faults, we do not expect angles of draw greater than the 21 degree measurements made for the Somerset room-and-pillar mine from mining of the coal reserves from the Iron Point and/or Elk Creek Coal Lease tracts.

In the unlikely event some unknown, unmapped structure or topographic feature is present in the Elk Creek and Iron Point Coal Lease tracts that could cause the angle of draw to be greater than the projected 8 to 21 degrees, there are mechanisms in place at the permit level to deal with issues related to mining near or beneath sensitive structures. Under requirements by the Colorado DMG, the following would be required:

- An inventory of potentially sensitive features;
- A monitoring plan to determine if there are any subsidence-related movement(s); and,
- A mitigation plan, whereby the mining companies would be responsible for properly mitigating any mine-related problems that may occur as a result of subsidence.

Safety Factors: The concept of safety factors is not generally used in subsidence engineering practice in projecting larger angles of draw, unless unusual geologic conditions, such as low-angle faults, fractures, or joints occur in the area that would require such a concept. Geologic mapping in the area shows that all observable structural features are steeply-dipping (approximately 75 degrees to vertical). Even so, we have approached the analysis of this issue from a conservative perspective to understand the potential impacts.

18-2 Comment noted.

18-3 See response to comment 18-1.

18-4 On page K-7 of *Appendix K, Subsidence Evaluation*, last bullet item, the following is reported, "Based on the author's knowledge of conditions in the Somerset mining area,

future seismic activity, due to bumps and rock bursts caused by previous mining in these abandoned mines, is likely to be of greater magnitude, and consequently have more impact on sensitive structures and area, than the seismic activity produced by longwall mining in the Elk Creek and Iron Point Coal Lease tracts." While the room-and-pillar technique would be used to drive access ways, it would be for development only, and would not be designed for extractive mining. The stability of pillars under Terror Creek was evaluated in Section 8.2.1, Driving Entries Beneath Terror Creek in *Appendix K, Subsidence Evaluation*.

This statement is true to the best of Dunrud's knowledge and belief, based on 25 years of relationship between bumps/rockbursts and seismic activity in the North Fork Valley.

It is true that small seismic events may trigger landslides during very wet periods. However, landslides would more likely be triggered by seismic events from nearby abandoned room-and-pillar mines than from longwall mining in the two lease tracts. In addition, as evidenced by the numerous slides that occurred in the lease tract area during the wet mid 1980's, landslides naturally occur during prolonged wet periods.

It is true that seismic energy can be amplified by such features as topography. During the magnitude 5.2 seismic event caused by the underground Rulison nuclear explosion on September 10, 1969, a nickel laid on edge on a track in the Somerset mine was not disturbed; whereas, in the Hubbard Creek valley bottoms Dunrud experienced very noticeable vertical and horizontal ground motion, and higher up a much greater vertical and horizontal ground motion was experienced by the crew in the seismic recording truck located at Condemn It Park at an elevation of 8,100 feet.

18-5 There was a clerical error in developing this section. We have revised the discussion under "indirect effects" in Section 3.3.3.1, Summary, in the Final EIS.

18-6 Water rights information for the Terror Ditch Extension was added to *Table 3.5-2, Water Rights Summary*. See response to comment 16-7.

18-7 The agencies acknowledge that subsidence can effect seeps and springs as discussed in Section 3.6.3.3, Effects of Alternative B and Section 3.8.3, Environmental Consequences. The potential for seeps or springs to be intercepted and diverted to the mine level by subsidence-induced cracking and overburden deformation is a function of the amount of overburden separating the seep/spring with the level of mining activity. According to the subsidence evaluation in *Appendix K, Subsidence Evaluation*, cracking associated with subsidence that could be continuous with the mine level would extend about 200 feet vertically into the overburden (see Section 6.1.2, Fractured Zone, in *Appendix K, Subsidence Evaluation)*.

The seeps and springs at the highest risk to be potentially effected by subsidence are those which have less than about 500 feet of overburden separating them from the elevation of the coal seams proposed to be extracted. *Table 3.6-1, Spring and Seep Survey - Iron Point Coal Lease Tract and Exploration License Area*, shows the risk associated with the inventoried seeps, springs and ponds. All the seeps, springs and ponds falling in the "high" risk category occur in the Hubbard Creek drainage (see also *Figure 19, Groundwater Hydrology*). In the Terror Creek drainage, identified seeps, springs and ponds occur in areas where at least 1,000 feet of overburden is present (see *Figure 13, D Seam Overburden Isopach*), and hence fall within areas of very low to low and low to moderate potential subsidence (see *Figure 14, Subsidence Potential Map*), and are thus at lower risk (refer to *Table 3.6-1, Spring and Seep Survey - Iron Point Coal*

Lease Tract and Exploration License Area). Note that *Table 3.6-1, Spring and Seep Survey - Iron Point Coal Lease Tract and Exploration License Area*, also shows the risk based on alternative. The preferred alternative calls for protecting the perennial drainages in Hubbard and Terror Creeks from subsidence per tenets of Alternative D, therefore eliminating risk to seeps and springs that contribute to the surface water flow of these drainages (see Section 3.6.3, Environmental Consequences).

Please also note that the strata in the area have not been identified as aquifers, as they are not continuously saturated and have limited lateral extents (see Section 3.6.3.1, Effects of Alternative A (No-Action) and Section 3.6.2.2, Mine Site Hydrogeology). Seeps and springs in the area are associated with sandstone lenses in the Wasatch and Mesa Verde Formations, fractures on canyon rims, or are associated with colluvial/landslide deposits (see Section 3.6.2.2, Mine Site Hydrogeology). The local flow paths of bedrock and colluvial springs follow the local topography and are affected by the numerous drainages in the region (see Section 3.6.2.1, Regional Hydrogeology). Primary recharge for springs is from direct precipitation and infiltration of snowmelt (see Section 3.6.2.2, Mine Site Hydrogeology).

Given the site specific conditions described above, there is very little risk to diverting seeps or springs in the Terror Creek drainage, and very little potential for losses via transbasinal diversion.

Given that there are a couple of locations of "moderate" risk in the project area, the agencies will add a stipulation to the coal leases that will require the lessee/operator to replace water resources damaged by subsidence. Monitoring seeps, springs and ponds will be a requirement of the mine permit issued under SMCRA.

18-8 We are aware that timber sales have occurred in the area (see Section 1.9.7, Logging). The effects were considered in the cumulative effects analysis. Effects to surface water resources have been minimal (see Section 3.5.2.2, Project Area Surface Water Hydrology).

18-9 Drill hole abandonment is discussed in Section 2.4.1, Alternative B: Iron Point Exploration License, in the Final EIS. Exploration drilling and borehole abandonment activities will comply with Colorado State and BLM rules and regulations. These rules and regulations are designed to protect surface and groundwater resources.

18-10 Comment noted.

18-11 The agencies will not underwrite damages which may occur, as is suggested by this comment. The EIS does reflect careful study of this concern. We have taken extraordinary measures to understand the nature and extent of possible harm to surface water resources. Further, our Decision Documents articulate specific mitigation measures designed to prevent harm to surface water resources, including, in part, the restriction of mining in certain areas. We are also very willing to cooperate with the successful bidder of the Iron Point Lease to implement protection strategies such as have been discussed in terms of replacement water and restoration/rehabilitation of any harm that does occur. The lessee assumes responsibility for any damage the activity may incur. Please also refer to responses to comments 35-107 and 40-3.

19-1 The preferred alternative showed the range of recoverable coal reserves based on the combination of Alternatives B and D (Draft EIS, page S-5). *Figure L-13, Average Mine Price of Colorado Coal* and *Figure L-16, Coal Production Trends (1000s Short Tons)*, show the coal production and price trends for Colorado coal.

19-2 Comment noted.

19-3 Comment noted. We recognize that there are disruptions to traffic as a result of train movements. See *Table 3.14-6, Vehicles Delayed at Grade Crossings*, in the Final EIS. Further, we encourage awareness at all grade crossings to prevent injury or death. We have expanded our discussion about mitigation in Section 3.14.5, Potential Transportation Mitigation and Monitoring, in the Final EIS. Also, see responses to comments 9-2, 9-3, 10-5, 11-3, and 12-5.

19-4 See response to comment 15-1.

19-5 See response to comment 15-2.

19-6 See response to comment 5-4.

19-7 Comment noted. Please also see Section 1.3, Purpose and Need, and *Appendix B, Agency Jurisdictions (Permits and Approvals)*, in the Final EIS.

20-1 Your proposed changes have been made in the Final EIS.

20-2 The Final EIS has been updated to include discussion of AAQS limits and the applicability of PSD.

20-3 See response to comment 20-2.

20-4 See response to comment 20-2.

20-5 Comment noted.

20-6 Comment noted.

20-7 The premises of Alternative D are described in Section 2.6, Alternative D, No Subsidence in Sensitive Areas, of the Draft EIS (pages 2-3 and 2-16 to 2-17), and provides for no subsidence in sensitive areas of the proposed lease tracts, which includes the Hubbard and Terror Creek drainages and the Curecanti-Rifle Electric Transmission Line. For each alternative, subsidence-induced effects to surface resources and/or structures were analyzed based on the potential risk posed by subsidence. *Figure 14, Subsidence Potential Map*, of the Draft EIS shows that the Hubbard and Terror Creek drainages fall in areas of "high to very high potential subsidence". Including the portion of Alternative D in the preferred alternative (Draft EIS, page S-5) that does not allow subsidence in Hubbard and Terror creeks or of Curecanti-Rifle Electric Transmission Line, was based on the results of the impact analysis performed in Chapter 3.0, Environmental Analysis, (Draft EIS, Sections 3.5.3.4, 3.6.3.4, 3.7.3.4 and 3.8.3.4). The analyses considered site specific conditions including thickness of overburden present, results of available research and application of Unsuitability Criteria (43 CFR 3461, Draft EIS, Appendices C and D). The impact summary for each alternative shown on *Table 2-4, Summary of Impacts by Alternative for Each Issue* (Draft EIS, pages 2-24 to 2-26) clearly shows that impacts to surface resources are reduced by precluding subsidence in these areas. Application of

the Unsuitability Criteria and exceptions called for protecting the Curecanti-Rifle Electric Transmission Line as discussed in *Appendix C, Unsuitability Analysis Report - Iron Point Coal Lease Tract*, and page 2-12 of the Draft EIS for all the action alternatives.

20-8 Specific mention of Corps of Engineers permitting requirements as such relate to the proposed project area were purposely avoided at the time of Draft EIS preparation. The references made with respect to permitting and mitigation requirements were meant to refer to all agencies with appropriate jurisdictions which include the Forest Service, BLM, Colorado DMG, and the Corps of Engineers. Modifications have been made to Section 3.8.5, Potential Wetlands Mitigation and Monitoring, to clarify the Final EIS text.

The Corps of Engineers office in Grand Junction was contacted while preparing the response to this comment. The impact of subsidence on Waters of the U. S. (including wetlands) was discussed with respect to both the Iron Point and Elk Creek tracts. Both Oxbow and Bowie have been issued General Permit No. 21 documents. Oxbow was issued a permit to construct a portal in Elk Creek. Bowie has been issued a permit to construct two sediment ponds and a portion of a road in association with the Bowie No. 2 Mine. Subsidence impacts to Waters of the U. S., if any, on both leases could potentially be linked to these issued permits and be considered in the context of cumulative disturbed acreage. Mitigation activities could be required by the Corps of Engineers.

Under these circumstances, a general reference to possible permitting and mitigation activities in the Final EIS appears appropriate.

20-9 Editorial corrections have been made to the Final EIS.

20-10 Editorial corrections have been made to the Final EIS.

20-11 *Figure 2, Surface Ownership*, has been updated to reflect current ownership.

20-12 *Figure 3, Historic Coal Mines and Federal Coal Lease Locations*, has been updated to reflect your comment.

20-13 We have revised Section 1.9.7, West Elk Coal Mine, in the Final EIS, to respond to your comment.

21-1 We have revised the discussion on the "West Elk Mine" in *Appendix G, Historic Coal Mining Activity*, to correspond with your submitted comment.

22-1 Oxbow has amended their coal lease application. We will take Oxbow's request to add additional acreage to the Elk Creek Tract into consideration. The increase in acreage will provide for ventilation and worker safety. The addition of approximately 65+ acres in T13S, R90W, Section 5: Lots 6, 11 and 12 are within the scope of the impact analysis. It would add no additional surface disturbance but would allow for additional coal reserve recovery, better mine layout, avoid a coal bypass and a future coal lease modification. The additional coal that would be added to the Elk Creek Tract would be 615,000 tons. The impact analysis will not change due to the addition of this acreage. Legal descriptions have been added to *Appendix A, Lease Tract Information*.

23-1 Comment noted.

23-2 The following has been added to the Summary at Section S-2.1, Alternative A - No-Action.

> Under the No-Action Alternative, the coal operations would continue operating under the approximate production levels permitted by the Colorado DMG. For further information, please also refer to the response to comment 16-21 in *Appendix O, Public and Agency Participation and Involvement in the Draft EIS*. This appendix is part of the Final EIS.

23-3 The BLM is required to consider the maximum economic recovery of coal. The ID Team determined the necessity for a multiple seam mining alternative. Also see response to comment 15-1.

23-4 Your statement is true. Reduced slope angles caused by subsidence would or tend to stabilize the hazard area, where the tilt direction is in the opposite direction to the slope angle.

23-5 Typographical error on page S-8 was corrected. See response to comment 10-12. Text on page 3-77 revised for clarity as requested by this comment.

Gaining and losing sections of Hubbard Creek have not been discretized. Additional monitoring and analysis will be required to characterize the stream functions. Refer to Section 3.6.5, Potential Groundwater Mitigation and Monitoring.

Potential impacts due to mine dewatering in the Elk Creek and Bear Creek drainage are addressed in Section 3.5.3.3, Effects Common to All Action Alternatives. Bear Creek and Elk Creek do not receive contributions to surface water flow from the D seam, because the D seam does not outcrop in these drainages but rather dips to the northeast. The depth of overburden increases to between 1,500 to 2,500 feet under most of the Bear Creek and Elk Creek drainages. See Section 3.6.3.1, Effects of Alternative A: No-Action, in the Final EIS.

23-6 The Final EIS includes the results of the independent, supplemental noise measurements that were taken by Bowie and Oxbow after publication of the Draft EIS.

23-7 The Standards and Guidelines are available upon request. A brief description of these guidelines are listed in Section 1.6.1, BLM Resource Management Plan Consistency. The guidelines will not be incorporated into Chapter 3.0, Environmental Analysis, because they are not scheduled for completion until 2000. If modifications are required when the landscape health assessment is completed, they will be incorporated into the next coal lease readjustment or they will be incorporated into the coal mine permit through BLM's comments on the mine plan. It is anticipated the land health standards will be met as far as coal mining is concerned because most of the health standards are covered by stipulations, laws and regulations. The lease will contain a stipulation that states: If the Standards and Guidelines health assessment results in a determination that changes are necessary in order to comply with the standards for public land health, the lessee will comply with the revised terms and conditions tot he extent practicable.

23-8 Changes have been made in the Final EIS to reflect your comments.

23-9 We have made the appropriate modifications in the Final EIS based on your comments.

23-10 Appropriate revisions have been made to Section 1.9.5, Terror Creek Coal Loadout, in the Final EIS.

23-11 Changes have been made in the Final EIS to reflect your comment.

23-12 We maintain our opinion that the most probable course of action would be that the lease tracts would be accessed through existing portals. We concur that if a lessee chose to construct a new and separate portal facility, a supplemental NEPA analysis would be required for such an action.

23-13 We have attempted to provide consistent figures in the Final EIS and explain the variance when differing production levels are identified. See response to comment 16-30.

23-14 Appropriate revisions have been made to the subsection "Coal Transportation" found in Section 2.3.3, Alternative A - No-Action Alternative - Elk Creek Coal Lease Tract.

23-15 We have revised the discussion regarding Oxbow water use in the Final EIS.

23-16 We agree with your comment that our rankings in *Table 2-4, Summary of Impacts by Alternative for Each Issue*, are somewhat subjective, but we disagree that we "inflated" rankings to support the selection of an agency preferred alternative. Regarding direct disturbance to stream channels, reduced flows, sedimentation, potential subsidence effects to Terror Creek and Hubbard Creek, and wetland impacts to Terror Creek and Hubbard Creek, we stand by our rankings. In Action Alternatives B and C, we did not highlight any subsidence protection to either Terror Creek or Hubbard Creek. Under such alternatives, there is a potential that subsidence could affect these drainages, their stream flows, and their associated riparian and wetland habitat. We designated Alternative D as an action alternative that would include measures to prevent subsidence to both Terror Creek and Hubbard Creek, and, as a result, lower the potential impacts to the hydrologic and wetland resource aspects attributable to future underground mining.

23-17 We purposely limited the discussion of reclamation, mitigation, and monitoring in Chapter 2.0, Alternatives Including the Proposed Action. We acknowledge that the BLM, Forest Service, OSM, and Colorado DMG require reclamation and a variety of environmental mitigation and monitoring measures. Reference to specific requirements for these and other agencies are set forth in *Appendix B, Agency Jurisdictions (Permits and Approvals)*. We believed that it was more appropriate to focus on particular mitigation stipulations that would influence the leasing and exploration license.

23-18 The Final EIS includes an updated discussion of AAQS limits and the applicability of PSD.

23-19 Editorial changes have been made in Section 3.1, Air Quality/Climate, in the Final EIS.

23-20 The Final EIS clarifies the new EPA requirements for controlling emissions from diesel equipment and locomotives.

23-21 The West Elk operations have been included in this EIS to describe and analyze "Cumulative Impacts" for potentially affected resources in accordance with NEPA. The West Elk emissions affect the "Proposed Action Minus Baseline" scenario, which has been evaluated separately from the "Proposed Action Minus No-Action" scenario that represent impacts only from Oxbow and Bowie.

23-22 *Table 3.1-8, Permitted Mining Processes at Oxbow Mining*, has been updated as requested.

23-23 Comparison of *Table 3.1-7, Permitted Mining Processes at Bowie Resources* and *Table 3.1-8, Permitted Mining Processes at Oxbow Mining*, does indeed show that the allowable emission rates at the Bowie mine are higher than the allowable emissions for similar operations at the Oxbow mine, even though the coal processing rates are comparable at the two mines. The discussion on page 3-21 has been updated to clarify the assumptions used to demonstrate that fenceline concentrations near the Bowie surface operations are less than the AAQS.

23-24 The discussion of "greenhouse gas" impacts has been clarified in the Final EIS.

23-25 The synopsis given in this comment is correct.

23-26 See response to comment 18-5.

23-27 Corrections have been made to *Table 3.5-4, Water Rights Impact Summary*, in the Final EIS.

23-28 The Rollins Sandstone is not referred to as an aquifer in the Draft EIS. The Rollins Sandstone is considered an insignificant water-bearing zone due to "low primary permeability and storage". Refer to Section 3.6.2.2, Mine Site Hydrogeology.

23-29 Wells B-6 and H-10 are close to, but not within the Elk Creek Lease Tract. Wells B-6 and H-10 are considered part of the monitoring system for the Sanborn Creek Mine. The Draft EIS analysis assumes that water quality data from the Sanborn Creek Mine monitoring sites are similar to the Elk Creek Lease Tract. As a result, these stations are listed in *Table 3.6.3, Selected Water Quality Summary - Springs, Alluvial Wells, Drill Holes*.

23-30 Section 3.6.2.5, Influence of Past and Current Activities on Groundwater Quality, has been revised for the Final EIS.

23-31 The explanation of the direct effects of a trans-basin diversion, provided in Section 3.6.3.2, Effects of Alternative A (No-Action), has been expanded in the Final EIS.

23-32 1. The statement that: "Wetland occurrence in the area is very limited and surficial disturbance of wetlands ..... would be negligible" is understandable from the company point of view. Wetlands are limited within the proposed project area. The difficulty arises in that no detailed baseline data exists with which to calculate just how limited this acreage is, and therefore the degree to which these wetlands would be disturbed.

Without detailed baseline data, we have decided to be conservative when preparing an EIS. While no formal wetland and Waters of the U. S. delineations were completed for the proposed project area, a reconnaissance of the lease and exploration areas was completed to estimate the general characteristics and extent of the wetlands present. A detailed wetland delineation was also completed for Oxbow's loadout facility along Elk Creek adding to the general data available for consideration. This work, coupled with an understanding of the effects that underground mining operations could have on surficial wetlands, resulted in the text of Section 3.8, Wetlands, of the Draft EIS.

While the reconnaissance and delineation work provided generalized baseline information, a level of uncertainty still existed. This level of uncertainty is reflected in the Draft EIS text. However, it should be noted that the text does refer to the

avoidance of wetland impacts (p. 3-123), limited and mitigable wetland impacts (p. 3-124), and a return to approximate original conditions (p. 3-125) in an attempt to accurately portray the limited nature of potential impacts to the wetland resource.

A review of Section 3.8, Wetlands, did reveal a few places where statements made could be construed to imply a greater impact than could reasonably be expected. Minor editorial additions and correction have been made to the Final EIS to remedy this situation.

2. With respect to the effects of subsidence, the previous discussion describes the approach the EIS ID Team took to assessing impacts in light of the baseline data available. A somewhat cautious approach was necessary. A review of the Draft EIS section did reveal statements made on pages 3-124 and 3-125 which could be viewed as overestimating the effect subsidence could have on endemic wetlands in terms of overall rather than isolated affects. The Draft EIS text on pages 3-124 and 3-125 has been modified in the Final EIS to note that the wetlands which could be affected are those associated primarily with geologic strata subject to coal removal, caving, and fracturing and not associated with the upper geologic areas in deeper overburden situations.

3. See response to comment 20-8.

23-33 The statement on page 3-126 of the Draft EIS was incorrect. It has been revised to be consistent with the habitat information presented for the southwest willow flycatcher in Section 3.9, Terrestrial Wildlife.

23-34 As indicated on page 3-136 of the Draft EIS, the loggerhead shrike "prefers open country, thinly wooded, or scrubby land with clearings." Grass-forb and oak brush habitats identified within the two lease areas qualify as suitable open or scrubby land habitats for loggerhead shrike.

23-35 Oxbow provided estimates of their water requirements for domestic use and dust control to the BLM. The most recent estimate was a total annual average of 176.5 acre-feet per year. A new sentence was inserted into Section 3.10.3.1, Effects of Alternative A (No-Action), to explain that consultations have been completed on a portion of the projected water use.

23-36 For clarification, the U.S. Fish and Wildlife Service consultation would be completed. If a lease is issued, there would be a condition of approval attached to the lease that final consultation would have to be completed as part of the mine permit approval. Water source and depletion figures would be specifically evaluated and confirmed at that time.

23-37 The discussion of cultural resources is in standard format for reporting research of this type. Its purpose is to generally convey the number, type, and size of previous surveys in the project area, and to describe findings made during these surveys.

In this case, findings were made during several of the previous surveys, including the larger survey. The findings reported are derived from all the previous surveys, not just the larger survey. Findings here have been generally minimal, probably because survey activity has been generally minimal. Consequently, the potential for cultural resources within the current project area can only be addressed in a general way.

23-38 Editorial corrections have been made to the Final EIS.

23-39 Editorial corrections have been made to the Final EIS. The Final EIS also includes the results of supplemental noise measurements that were taken by Bowie and Oxbow after publication of the Draft EIS.

23-40 The Final EIS includes these editorial corrections.

23-41 The referenced assumption has been refined for the Final EIS. The referenced assumption had no significant impact on the modeled noise levels, conclusions, or recommendations.

23-42 The Final EIS has been revised to include the results of supplemental noise measurements that were taken by Bowie and Oxbow after publication of the Draft EIS.

23-43 Appropriate changes have been made to Section 6.0, Coal Markets, in *Appendix E, Mining Economics*, in the Final EIS.

24-1 Comment noted.

25-1 Comment noted.

25-2 The EIS was written to consider specific applications for accessing federal coal lands (see Section 1.1, Introduction, of the Draft EIS) and provides the most comprehensive analysis of coal activity in the North Fork Valley undertaken in recent years. The applications are related in time and proximity, therefore, the agencies analyzed the three proposed actions under one EIS in order to best serve the requirements of NEPA (Draft EIS, page 102).

At the planning level, the GMUG Forest Plan and the BLM Uncompahgre Basin Resource Management Plan (RMP) made the lands analyzed in this EIS acceptable for coal leasing and development (EIS, Section 1.6.1, BLM Resource Management Plan Consistency and Section 1.6.2, Forest Plan Consistency; GMUG Forest Plan pages II-89 and 90, and RMP, page 21 of the ROD). This EIS was prepared to evaluate the areas for leasing and exploration based on the specific applications. The applications considered in the EIS are being processed under authority and procedures found in 43 CFR 3400. See also responses to comments 25-7 and 25-4.

25-3 Comment noted.

25-4 We have expanded our discussion about possible future actions in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, in the Final EIS.

25-5 Please also refer to responses to comments 25-2-M, 25-7-M and 25-8-M. The existing agency planning documents, the GMUG Forest Plan and the BLM Uncompahgre RMP made the lands involved in this EIS available for coal activity consideration as required under 43 CFR 3420.1. This EIS was prepared to evaluate coal activity on the lands involved in the applications being processed (43 CFR 3425.2). Well pad applications to drill relate to oil and gas development, and are not governed under the coal leasing regulations followed in this analysis. A discussion of the future federal coal activity to the extent known is given in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, of the Final EIS.

25-6 We disagree with your conclusion. We cannot assume that an exploration license will automatically lead to a future lease application. The purpose of exploration drilling is to

gather data on occurrence and quality of the coal resource. As mentioned in Section 3.3.2.1, General Geology, there are several isolated igneous intrusions that have been encountered within the vicinity of the Iron Point Coal Lease Exploration License Area. The actual Iron Point geologic feature is a visual example of such an intrusion. Until site specific exploration information is obtained, it is not certain that a mining company may request a future coal lease tract in this area. In addition, there could be a variety of other technical and economical reasons why a company would not file an LBA request with the BLM. See also response to comment 51-9.

If and when a mining company determines that sufficient coal is adjacent either in the Iron Point Coal Exploration License Area or some other areas bordering existing mines, the company could make the appropriate applications to governmental authorities. Should such definite proposals be received by federal authorities, the appropriate NEPA analysis evaluating these proposals would be prepared.

25-7 Please also refer to response to comment 25-2. This EIS was prepared in accordance with the governing federal coal leasing regulations; the Iron Point and Elk Creek Coal Lease tracts are being processed according to the procedures set forth in 43 CFR 3425, LBA, and the exploration license application is being processed under procedures in 43 CFR 3410 (Draft EIS, page S-1, Sections 1.2.1, 1.2.2, 1.2.3, and 1.5). This EIS analyzed cumulative off-site impacts, including effects to air quality, surface water, transportation and socioeconomics that are influenced by all the coal activity in the area (EIS, Sections 3.1.3, 3.5.4, 3.14.3 and 3.15.3). It therefore provides a comprehensive analysis of coal activity impacts in the North Fork Valley, and provides reference opportunity for any future environmental analyses involving federal coal activity. The analysis incorporates a look at these effects of coal activity for about the next 10 years.

In preparing this EIS, the agencies followed the appropriate governing regulations for NEPA and coal leasing as described above. In past years, the governing regulations and process for coal leasing and activity differed. The federal coal lands under consideration in the EIS are part of the Uinta-Southwestern Utah Coal Region. Lands within this coal region were formerly considered for leasing following the process authorized under 43 CFR 3420.2, Regional Leasing Levels. Under these procedures, a Regional Coal Team (RCT) was responsible for identifying, delineating, and ranking potential coal lease tracts. The RCT would recommend a "level for leasing" after consulting with Governors of affected states, the Department of Energy, Indian Tribes, and would base their recommendations on national need for coal, industry interest, coal production goals and need for federal coal. Based on this input, the RCT would select a combination of lease tracts that best represented a regional leasing level, and would prepare an EIS based on the established leasing level. This process resulted in preparation of three "regional leasing EISs" in the late 1970s and early 1980s; the West Central, Round 1 and Round 2 EISs. Ultimately, the RCT held regional competitive lease sales which offered many tracts at one time. Because many lease tracts were offered at one time, this process generated little interest in leasing. As a result, the regional leasing system was abandoned and replaced by the LBA process. The RCT was then decertified by the BLM in the mid-1980s. Without a RCT, the lands within this region can not be processed under the regional leasing regulations, rather, lands in this coal region are now considered for leasing following the LBA process described in 43 CFR 3425.

To summarize, up until the mid-1980s, the BLM was leasing coal based on Bureau motion or initiative. The goal was to help meet the national demand for coal by stimulating production from federal lands. Regional assessments were conducted to evaluate the best mix of numerous tracts offered for sale. With changing market demand and policy,

this is no longer the case. The current process is to respond to specific demand brought forth to the federal agencies by application.

As discussed in Section 1.7.3, Community Efforts, of the Final EIS, the local community has come together and forged a successful partnership under the NFCWG. This group is proceeding with the development of an MOA as a way to address community-based issues related to off-site impacts that fall outside the regulatory jurisdiction of the BLM and Forest Service. The NFCWG has focused their efforts mainly on safety/ transportation and subsidence/water issues. Please also see response to comments 11-1 through 11-9, 58-9 and 62-10.

25-8 Refer also to responses to comments 25-2 and 25-7. The proposed actions evaluated in this EIS include applications to lease or explore federal coal lands as described in Sections 1.1, Introduction, 1.2.2, Iron Point Coal Lese Tract (COC-61209) and 1.2.3, Elk Creek Coal Lease Tract (COC-61357) of the Draft EIS. The two LBAs and exploration license application are the proposed actions before the federal agencies, and which are being analyzed in this EIS. Based on the procedures set forth for coal leasing and other coal-related activities, NEPA analyses are performed upon receipt of applications to access specific federal coal lands.

Federal coal is leased on a competitive-bid basis (Draft EIS, Section 1-5, Decisions to be Made, 43 CFR 3425), and this means that an operator other than the applicant of the lease tract may be the successful bidder at a lease sale. Because of this competitive nature, Reasonably Foreseeable Development Scenarios (RFDS) for each coal lease tract were used to provide a basis for assessing environmental impacts. The RFDS are presented in Sections 2.2, Formulation of Alternatives, 2.4.2, Alternative B - Offer Iron Point Coal Lease Tract as Applied for by Applicant and 2.4.3, Alternative B - Offer Elk Creek Coal Lease Tract as Applied for by Applicant, of the Draft EIS. The exploration license application included a plan proposing locations of exploration drill holes and access roads (Draft EIS, page 2.3 and Section 2.4.1, Alternative B: Iron Point Exploration License and *Figure 4, Iron Point Exploration Plan*) that was used to evaluate potential effects. The RFDS for the coal lease tracts and the exploration license plan used in the EIS reflect potential development plans relative to the applications before the agencies that are being considered in this EIS. An explanation of other future coal activity in the area has been added to Sections 1.9.1, Coal Exploration, and 1.9.2.3, Reasonably Foreseeable Coal Mining Activities, of the Final EIS.

Appendix E, Mining Economics, describes the contract basis of coal sales, and describes the market conditions under which coal is exchanged. This is also reflected on page 2-12 of the Draft EIS.

There is a continued demand for clean "compliance coal" for use in coal-fired power plants to ensure emissions comply with Clean Air Act standards as discussed in Chapter 1.0, Purpose and Need for Action, of the EIS. The quality of the coal in the proposed coal lease tracts meets the criteria for compliance coal, and is therefore a desirable commodity. Recent trends in coal production, price and distribution are illustrated in the following figures:

- *Figure L-13, Coal Production Trends (1000s Short Tons)*
- *Figure L-14, Coal Mining Productivity Trends in Delta and Gunnison Counties (1000s Short Tons)*
- *Figure L-15, Distribution of Colorado Coal Sales (1997)*
- *Figure L-16, Average Mine Price of Colorado Coal*

Cumulative impacts are discussed for each individual resource in Chapter 3.0, Environmental Analysis. The RFDS and exploration license plans used as the basis for evaluation represent the best estimates for development.

25-9 The reasonably foreseeable development scenarios for alternatives B, C, and D are set forth in the discussions under Section 2.4, Alternative B - Proposed Actions, Section 2.5, Alternative C - Multi-Seam Mining and Adjusted Coal Lease Boundaries, and Section 2.6, Alternative D - No Subsidence in Sensitive Areas.

We have revised and clarified the discussion in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, to include additional information about the potential future of coal mining activities in the North Fork Valley.

We disagree with your comment that the Draft EIS did not consider cumulative impacts. Your comment regarding the assertion that the Draft EIS infers that if coal leases are not granted, then all coal mining in the region will cease when current reserves are exhausted, is incorrect and misleading. Please refer to Section 3.15.3.2, Socioeconomic Effects of Alternative A (No-Action); in this section, we state: "Under a No-Action Alternative, mining of reserves at existing mines would continue at current extraction rates until reserves are depleted." This section continues: "To be conservative, impacts associated with a no-action alternative are expressed as maximum potential effects on an annual basis after cessation of existing operations at the Bowie and Oxbow sites."

It was not our assumption or conclusion that, if leases are not granted, the mines will close. We correctly assert that, under the No-Action Alternative, the Bowie and Oxbow operations would continue to the extent that they have access to other federal and private reserves.

25-10 See responses to comments 25-4, 25-6, and 25-9.

25-11 The Oil and Gas Leasing EIS for the GMUG National Forest (O and G EIS) was prepared under different authorities and for differing reasons than this EIS which considers applications to access federal coal lands. The O and G EIS was prepared following adoption of the Federal Onshore Oil and Gas Leasing Reform Act (1987), and the establishment of regulations governing the role of the Forest Service in oil and gas leasing, issued in 1990 (36 CFR 228 Subpart E). The regulations at 36 CFR 228.102 directed that the Forest Service undertake NEPA analyses to analyze "lands under their jurisdiction that have not already been analyzed for leasing." These regulations and the citation provided in the comment (36 CFR 228.102(c)(3 and 4) provide specific instruction for preparation of the oil and gas leasing EISs, and do not apply to coal leasing.

The applications to lease federal coal lands being considered in this EIS, are being done following the coal leasing regulations in 43 CFR 3425 (Draft EIS, Sections 1.2.1, 1.2.3, and 1.5). These regulations do not have specific direction for assuming reasonably foreseeable development, however in the EIS, the agencies used scenarios that represent a "best estimate" development scenario in order to account for the competitive nature of coal leasing, and to evaluate potential impacts to non-mineral resources. See responses to comments 25-7 and 25-8.

Leasing is a part of the overall development of federal coal resources. As described on pages 1-6 and 1-7 of the Draft EIS, if the coal leases are issued, the lessee is required to submit a Permit Application Package to the Colorado DMG for review under SMCRA and

the Colorado Surface Coal Mining Reclamation Act. The permit and mine plan must also be recommended by OSM for approval by the Undersecretary of the Interior. Under SMCRA, there is opportunity for the BLM and Forest Service to ensure that development occurs according to the commitments made in the NEPA document and decisions. The BLM and the Forest Service must offer concurrence to the mine permit prior to it's issuance. The BLM must also approve a Resource Recovery and Protection Plan before a permit can be issued. See also *Appendix B, Agency Jurisdictions (Permits and Approvals)*, of the EIS.

25-12 See response to comment 25-11.

25-13 See response to comment 25-9.

25-14 To respond to your comment, we have added additional information in Section 3.14.4.7, Capacity of North Fork Branch.

As stated in Section 3.14.2.5, Union Pacific Railroad - North Fork Branch, the amount of traffic on a rail system would be dictated by the demand of the coal operations (i.e., their coal production) and the availability of railroad cars.

The physical ability to transport coal on a railroad spur such as the North Fork Branch is dependent on a number of items, including condition of the track, train speeds, length of the spur line, and number of passing sidings.

As stated in Section 1.9.13, Railroad Maintenance/Improvements, the Union Pacific is undertaking a schedule of maintenance and upgrades on the North Fork Branch. The purpose of this maintenance is to allow train speeds to be increased, which also increases the amount of coal that can be moved on the line.

On one-way spur lines, such as the North Fork Branch, there are limits to the number of trains that can utilize the spur line at any one time. It is the limit on the number of trains that are able to use the spur line that can limit the amount of coal production that can be moved on the spur line. Sidings allow for coal trains to pass on single tracked spur lines such as the North Fork Branch. Obviously, scheduling is important such that trains on the sidings are not delayed for undue periods of time. Further, the more the sidings, the greater the ability of the spur line to handle increased train traffic. Taken to its maximum, a railroad spur can be double tracked, which would increase the capacity of the spur line. For example, the double-tracked line into and out of the Powder River Basin handles over 250 million tons of coal annually.

We have also upgraded the discussion in Section 1.9.13, Railroad Maintenance/ Improvements, to discuss the proposed new siding on the North Fork Branch. This proposed siding would be located between Hotchkiss and Delta in Section 28, T14S, R94W.

25-15 See response to comment 25-14.

25-16 See response to comment 25-14.

25-17 See response to comment 25-14.

25-18 See response to comment 34-2.

25-19 Adequacy of rail carrier activities to support increased mine production is not directly addressed in Section 3.15, Socioeconomics, but is addressed in summary form in Section 2.7, Transportation Options, and in more detail by Section 3.14, Transportation, in the Final EIS.

25-20 The Draft EIS does not identify any destabilizing effects associated with any of the action alternatives from the West Elk Mine operation. The commentor identifies information from a private meeting that is unavailable to the preparer of the socioeconomic evaluation for the Draft EIS. Consequently, this comment is noted with no further added response.

25-21 We have discussed the projected coal production from the North Fork Valley in Section 3.14.3, Environmental Consequences. Also see *Table 3.14-2, Coal Production From North Fork Valley Coal Mines*. Based on information we have received from the coal mines in the North Fork Valley, production could increase from 8.6 million tons of coal shipped in 1998 to 19.2 million tons in 2005.

25-22 Comment noted.

25-23 See response to comment 25-14.

25-24 See response to comment 25-9.

25-25 NEPA does not include the word "broad" in its discussion regarding the identification of reasonable alternatives. We further disagree that our range of alternatives did not provide adequate information to evaluate the potential consequences of the federal leasing action. NEPA does not require an infinite number of alternatives nor the development of unreasonable alternatives.

25-26 See responses to comments 15-1 and 23-3.

Your discussion about production levels between the 1998 EA documents and the 1999 Draft EIS is somewhat misleading. For example, for the Elk Creek Tract, we simply rounded the 20.75 million tons to 21 million tons in Alternative B. The 13.79 million tons for the Iron Point Tract illustrated in the 1998 EA simply illustrates a lease boundary change requested by the applicant. Under the originally applied for lease boundary, the projected coal reserves ranged from approximately 24 to 26 million tons, depending on mining method. The request to reduce the lease boundaries by the applicant was made to eliminate any potential significant impacts. To our knowledge, this request was developed through negotiations with outside parties (not the BLM or Forest Service) and was not based on any in-depth technical analysis. By choosing to prepare an EIS for the leasing applications, we simply reverted to the original lease boundaries in an effort to examine potential impacts to the Terror Creek Reservoir, Terror Creek, and the Curecanti-Rifle 230/345 kV electric transmission line.

You are correct. The No-Action Alternative does not represent a "zero" mining alternative. The No-Action Alternative simply assumes no leasing would occur and that the exploration would be denied. Existing mining companies in the North Fork Valley would be able to continue mining operations at their existing production levels, if they obtained the necessary permits and approvals.

25-27 See response to comment 15-2. Also, see Section 3.14.4.4, New Rail Loadout Adjacent to Bowie No. 2 Mine. In the event of the construction of a new train loadout adjacent to the Bowie No. 2 Mine, the disposition of the rail spur to the Bowie No. 1 Loadout is

unclear. If this trackage is left in place, there is the possibility that another siding might be made available for the North Fork Branch.

25-28 See Section 2.8.4, Limit the Size of the Iron Point Tract to Avoid Coal Beneath Terror Creek and Curecanti-Rifle 230/345 kV Electric Transmission Line. The alternative you suggested was considered but was not carried forth for detailed evaluation. The possibility of bypassing Terror Creek was identified in Section 1.8.5, Geology/ Geotechnical Issues/Subsidence. We addressed this issue with the development of Alternative D (No Subsidence in Sensitive Areas). See responses 15-1 and 15-6.

NEPA does not require an infinite combination of possibilities. In *Appendix E, Mining Economics*, we noted there are economic and market risks, geologic and engineering risks and political and regulatory risks, associated with coal mining operations. We expanded the discussion in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, to respond to your comment.

25-29 See discussion in Section 2.2, Formulation of Alternatives, of the Final EIS. See also response to comment 15-1.

25-30 Section 3.9.3.3, Direct and Indirect Effects Common to All Alternatives, has been modified to provide additional discussion regarding increased road densities and related changes in habitat effectiveness for elk, mule deer, black bear, and mountain lion.

25-31 See response to comment 25-30.

25-32 See Section 3.13.2.3, Coal Exploration. Road reclamation requirements are made part of the exploration license issued/administered by the BLM and the Forest Service on BLM administered lands and National Forest System lands, respectively. In addition, all exploration activities, including road reclamation aspects, are handled by the Colorado DMG and must adhere to state regulations including those related to regrading and revegetation.

25-33 *Figure 23, Elk Range*, is based on the most up-to-date Wildlife Resource Information System (WRIS) mapping provided by the Colorado Division of Wildlife. The Draft EIS in Section 3.9.2.2, Big Game, acknowledges the fact that the Colorado Division of Wildlife WRIS mapping shows only known elk production areas and that some elk calving activity is likely to take place in areas of suitable habitat within the Iron Point Exploration License Area. However, the Colorado Division of Wildlife radio-collar tracking surveys indicate that the majority of elk calving activity occurs at the higher elevations mostly above the Iron Point Exploration License Area and the two lease areas (Kirk Madariaga, pers. comm, December 12, 1999).

Mule deer fawning habitat was not identified or discussed in the Draft EIS because mule deer typically are not restricted to more defined production areas like elk. Mule deer fawning activity can essentially occur in any area where snow cover is lacking, adequate food and water is nearby, and sufficient security cover is provided by trees or shrubs.

For either species, the amount of potential habitat disturbance within the two lease areas and the Iron Point Exploration License area (33.5 acres total) is unlikely to have any measurable effect on elk and mule deer production within the study area. Most elk production occurs outside of areas of potential disturbance. Minor amounts of potential mule deer fawning habitat could be affected by road and borehole development, but this is unlikely to have any measurable effect on mule deer populations. Standard Forest

Service stipulations (see *Appendix I, Forest Service Stipulations - Iron Point Coal Lease Tract)* would prohibit any surface disturbance activities during the mule deer and elk production seasons. Potential concerns regarding a decrease in big game security due to increased road access apply only to the hunting seasons, and there is no hunting permitted during the elk and mule deer production seasons.

25-34 See response to comment 25-33.

25-35 The measured L-max at the train measurement locations has been added to the Final EIS.

25-36 Editorial clarifications have been made for the Final EIS. The use of several noise impact criteria is appropriate to describe impacts from stationary equipment, haul trucks on public roads, and coal trains.

25-37 The Federal Transit Administration (FTA) noise evaluation criteria (based on the daily average L-dn) indicated that existing coal trains already cause unacceptable noise impacts at residences near the tracks, and future increases in coal trains would exacerbate the problem. The use of different modeling methods to evaluate the SEL and L-max from individual train pass-bys would not change the conclusions or recommendations of the Draft EIS, so no additional noise modeling is included in the Final EIS. However, more extensive modeling is possibly warranted after the Final EIS to refine our understanding of which specific residential areas are most impacted. The Final EIS includes additional information on recommended future noise studies and noise mitigation measures. As part of the public railroad inventory work completed in December 1999, an inventory of residences near railroad crossings has been made.

25-38 See response to comment 25-37. Additional noise modeling based on the SEL or L-max would not change the findings of the Draft EIS, so no additional noise modeling is included in the Final EIS.

25-39 See response to comments 25-37. There are many homes in Paonia located closer than 100 feet from the railroad tracks, so measuring noise levels 125 feet from the tracks would not have been meaningful.

25-40 The noise measurements completed for the Draft EIS were designed to provide representative data for input to a general noise impact assessment. They were not intended to fully quantify the range of train noise impacts at all affected locations. The limited noise measurements demonstrated that noise levels near the tracks varies considerably depending on the use of train whistles, the speed of the train, and whether the train is going uphill or downhill. The range of values from the train noise measurements were input to the FTA noise impact assessment, which demonstrated that coal trains already cause significant noise impacts to residences near the tracks and that future coal train increases would exacerbate the problem. The requested "several week long noise readings" would not change those conclusions. However, follow-up noise measurements and computer modeling might be warranted in the future to better define which specific railroad crossings require future upgrades to reduce noise impacts to nearby residents. Therefore, Section 3.14.5, Potential Transportation Mitigation and Monitoring, in the Final EIS has been expanded to recommend additional studies.

25-41 The noise meters were set on "slow" response, which is the conventional setting for community noise impact assessments. The FTA guidance specifies the "slow" response for general community noise readings. The "fast" response is commonly used for

industrial applications and industrial hygiene noise compliance. However, we are unaware of any guidelines or regulations that stipulate the use of the "fast" response for community noise assessments.

25-42 The noise readings taken for this EIS were appropriate for their intended use. See response to comment 25-40. Two sets of nighttime train noise readings were taken: one at Paonia, and one at Hotchkiss. Section 3.12.3.3, Train Noise Levels and *Table 3.12-11, Measured 30-Second Levels Caused by Coal Trains*, have been updated in the Final EIS. Noise readings were actually taken at four locations on Garvin Mesa before and during train loading at the Bowie No. 1 loadout. *Table 3.12-1, Measured Noise Levels at Rural Areas Near Paonia* and *Table 3.12-9, Measured Noise Emissions From Mining Activity*, have been updated to include all of the noise readings taken at those locations. The readings at Garvin Mesa are assumed to represent noise levels at other mesas in the study area.

25-43 Editorial corrections have been made for the Final EIS.

25-44 All of the noise values listed in this EIS are OUTDOOR levels. We suspect that the 45 dBA level cited in this comment is an INDOOR value.

25-45 The tables in the EIS have been updated to eliminate the measured L-25 and L-50 levels, which do not directly affect the impact assessment. The measured L-max has been added to the tables for those cases where it is appropriate to the impact assessment.

25-46 In reality there were only two days of readings. No noise readings were taken on April 25th, the dates on *Table 3.12-9, Measured Noise Emissions From Mining Activities*, should all be 4/23/99. All noise readings were taken during conditions when the weather had no affect on the readings. An experienced noise engineer took each reading, and carefully observed the background and weather conditions to ensure that none of the readings were influenced by wind in the trees or rain falling on trees or roofs. Wind conditions were dead calm during virtually all readings. The noise readings on the night of 4/21/99 were taken during occasional showers, but no significant rainfall and no wind occurred during the actual readings. Each of the noise meters were sealed in plastic bags containing desiccant to ensure that humidity did not affect the meters. The weather was ideal for noise measurements during the quiet baseline readings taken on 4/23/99. The noise meters were set for "A-weight" and "slow" response.

25-47 The Final EIS includes definitions of the noise parameters used for the impact assessment. The "30-second L-eq" is the L-eq measured during the spot reading. The L-max is the loudest 1-second reading recorded by an instrument. "Off the chart" means that the measured value is higher than the x-axis range on the figure.

25-48 Editorial corrections have been made for the Final EIS.

25-49 See response to comment 25-42.

25-50 The noise assessment concluded that, based on 1996 ADT levels, truck noise along State Highway 133 would cause significant noise impacts. Use of the 1998 AADTs would not change this conclusion, so the noise assessment will not be updated to include the1998 values. As described on page 3-169 of the Draft EIS, highway noise levels were modeled by the FHWA Highway Traffic Prediction Model. That noise model does not use the L-max, it calculates the one-hour L-eq based on the specified hourly traffic volumes. The FHWA criterion is 67 dBA for the 1-hour L-eq, and cannot be compared to the modeled

24-hour L-dn. The increase in truck traffic along State Highway 133 would indeed cause an adverse noise impact. See *Table 3.12-8, Noise Impacts From Traffic Along State Highway 133* and the discussions on page 3-178 and 3-179 of the Draft EIS.

25-51 See response to comment 34-2.

25-52 The Colorado noise regulation is generalized compared to the regulations from other states. It regulates noise levels at an arbitrary distance from the noise source rather than limiting noise levels at relevant receivers. In addition, it does not include any exemptions for warning devices of any kind (e.g., train whistles, fire alarms, air raid sirens, etc.). If the Colorado noise regulation is interpreted to limit the nighttime L-max to 75 dBA, then every train operating in the state at night (including trains operating in unpopulated prairie lands) violates the regulation. Similarly, every train that ever sounds its whistle would violate both the daytime and nighttime L-max limit. The railroads' compliance with noise regulations is an esoteric regulatory issue that has no affect on whether trains and train whistles cause meaningful noise impacts in Paonia and Hotchkiss. Mitigation measures to protect homes near the tracks are set forth in Section 3.12.5, Potential Noise Mitigation and Monitoring.

25-53 We are not sure what decision or damages the commentor is referring to. Coal mining on public lands is regulated by many different agencies. The mining company is required to conduct mining in such a way as to minimize any environmental impacts. Generally, if damages occur it is the responsibility of the mining company to fix them.

25-54 Comment noted. See response to comment 25-14.

25-55 We have upgraded the discussion in Section 1.9.13, Railroad Maintenance/ Improvements, in the Final EIS to respond to your comment. We have also made appropriate clarifications in Section 3.12, Noise, and Section 3.14, Transportation, regarding increased train speed. For information regarding vibration, see response to comment 34-2.

25-56 See revised Section 1.9.13, Railroad Maintenance/Improvements, in the Final EIS.

25-57 We have added the possible use of the "Y" side track at the Bowie No. 1 Loadout as a new siding to Section 3.14.4.5, Capacity of North Fork Branch, in the Final EIS. This use would be contingent on the construction of a new rail loadout adjacent to the Bowie No. 2 Mine.

The construction of a new rail loadout adjacent to the Bowie No. 2 Mine is discussed in Section 3.14.4.2, New Rail Loadout Adjacent to Bowie No. 2 Mine. The exact location for such a new facility has yet to be determined, but this facility would be permitted with the Colorado DMG. Although a location has not been selected, it is suspected that the new facility would be located so as to not cross old State Highway 133. If this remains true, there would be no additional impacts to school bus routes as a result of operation of a new rail loadout adjacent to the Bowie No. 2 Mine. The Colorado Department of Transportation would regulate ingress/egress from such a facility from old State Highway 133. Ingress/egress impacts to private residences in the immediate area are being evaluated including potential mitigation. In addition, an air quality permit would be required from the Air Pollution Control Division of the Colorado Department of Public Health and Environment.

25-58 Comment noted. See response to comment 11-3.

25-59 See response to comment 11-3.

25-60 In December 1999, we conducted an inventory of public rail highway grade crossings in Delta County. We also developed some additional cost information for railroad crossing safety devices and grade separation construction projects. In addition, we have upgraded Section 3.14.2.5, Union Pacific Railroad - North Fork Branch, in the Final EIS. It is available for public review at the BLM office in Montrose.

25-61 See responses to comments 9-3, 10-5, and 25-60.

25-62 See responses to comments 11-4 and 25-60.

25-63 Your request is outside the scope of this EIS.

25-64 Comment noted.

25-65 See response to comment 6-1 on peak traffic on State Highway 133.

Coal haulage from the Bowie No. 2 Mine to the Bowie No. 1 Loadout would take place on a 24-hour (round the clock) basis. Mine related employee traffic would be particularly evident during periods of shift changes. The primary number of workers would commute to the mine during the day shift of each week day. Afternoon and night shifts would also see traffic but on a lessor extent given fewer employees working on those shifts and little supply traffic at that time of day.

We apologize that you misinterpreted our discussion on public safety, particularly the discussion about accident rates. We acknowledge that it is reasonable to assume that accidents could increase as a result of increased coal truck traffic, and if a truck was involved in an accident, the accident might be worse than that involving two cars. We further understand that accident rates are variable, and any increase or decrease could take years to show statistically.

Our discussion about a potential decrease in accident rates apparently needed more clarification. An accident rate in this case does not mean simply the number of accidents that occur over a period of time, but rather means the accident rate per a certain number of vehicle miles. The best way to illustrate this aspect is to assume that there is 100 miles between town A and town B. In 1997, the ADT between town A and town B was 2,000. This means there were 200,000 vehicle miles traveled on this stretch of road in 1997. If ten accidents occurred on this stretch of road between town A and town B during 1997, the accident rate reported for this stretch of road in 1997 would be five accidents per 100,000 vehicle miles.

Let's say in 1998, the traffic between town A and town B doubled to 4,000 ADT, and fifteen accidents occurred on this stretch of road in 1998. This would mean that there were 400,000 vehicle miles on this road in 1998, but the accident rate would only be 3.7 accidents per 100,000 vehicle miles.

It is this type of concept that we were discussing in this section, and we were not trying to be "disingenuous" or "insulting."

In addition, because statistically most accidents result from speed and alcohol, we were merely indicating that the professional drivers hired by Savage Industries or other contract haulers should neither be speeding nor under the influence of alcohol, and their

professional talents and abilities should be translated to safety considerations including traffic along State Highway 133. Further, statistically it can be assumed that the accident rate could decrease.

Again, we apologize for our lack of clarity in the Draft EIS on this matter, and have reconsidered the discussion in this section in the Final EIS. Using accident rates (accidents per vehicle miles) is a technique often used by engineers and traffic safety experts in ranking the relative safety of highways. In no way, did we wish to diminish the fact that accidents can be dangerous, and even deadly, and an accident involved with a coal truck can be quite serious indeed.

25-66 Comment noted. The 38 percent decrease in ADT was meant to mean a decrease from the same amount of traffic that would be required if 28 ton trucks were used as compared to 45 ton trucks. We acknowledge there would be an increase in overall traffic as a result of 45 ton trucks.

25-67 Comment noted. Also see response to comment 15-2.

25-68 The lease boundaries under the preferred alternative for leasing (Alternative B) are shown on *Figure 5, Alternative B*. While the lease boundaries do encompass, in part, portions of Terror Ditch and Reservoir Company ditch facilities, the boundaries do not encompass the actual reservoir facility. The preferred alternative includes the portions of Alternative D that provide for no subsidence under sensitive features, including Terror Creek and ditch (Draft EIS, page S-5 and *Figure 7, Alternative D*. By precluding subsidence in these areas, there is negligible risk to these facilities. The agencies recognize the water rights held by the Terror Ditch and Reservoir Company (see *Figure 18, Water Rights* and *Table 3.5-1, Surface Water Monitoring Summary*). Coal mining regulations also recognize the importance of held water rights and require replacement of water supplies under SMCRA (30 CFR 717.17(i)). The terms of SMCRA are enforced by the Colorado DMG, and compliance will be required under the mine permit. See response to comment 30-4.

25-69 As part of the required analysis for federal coal leasing, Unsuitability Criteria for Coal Mining (34 CFR 3461) were applied to the Iron Point Coal Lease Tract. The results of applying these criteria are detailed in *Appendix C, Unsuitability Analysis Report - Iron Point Coal Lease Tract* and illustrated on *Figure C/D-1, Coal Unsuitability Criteria Locations*. As described in response to comment 25-68, the agencies also recognize the importance of water and water handling facilities, and therefore selected an alternative that provides for protecting sensitive water sources from subsidence.

See response to comment 30-4. Section 2.6.2, Alternative D - No Subsidence In Sensitive Areas, proposes that there would be no subsidence allowed under Terror Creek or Hubbard Creek.

25-70 See response to comment 25-69 and 30-4. We do not anticipate the need for a cost-benefit analysis to determine the need to protect surface facilities from the impacts of subsidence.

25-71 Please also refer to response to comment 25-68. The potential impacts to Terror Ditch and Reservoir Company facilities are disclosed in Section 3.5.3, Environmental Consequences. The agencies have included a lease stipulation on the Iron Point Lease Tract that requires the lessee/operator to perform ground motion/seismic monitoring on the dam facility. See response to comment 30-4. A water replacement plan must demonstrate that implementation is physically and legally viable.

25-72 See responses to comments 25-86 and 30-4.

25-73 See response to comment 30-4.

25-74 Socioeconomic effects are identified and described without any value judgement as to whether these effects are to be construed as positive or negative. With regard to social values, effects are assessed primarily in qualitative rather than quantitative terms. Section 3.15.2.9, Social Values, specifically notes: "Whether or not coal mining is viewed as having a positive or negative effect on quality of life depends on the values that receive greatest emphasis from different residents of the North Fork region."

This section also identifies potential negative lifestyle effects for some residents or social groupings. The sentence that describes these effects has been modified as follows: "These concerns include issues such as train noise/crossing blockage, and effects of future temporary or ~~future~~ permanent closures on mine workers, their families and affected communities." *Note:* deletion is indicated by ~~strikethrough~~, addition by underlining. This change has been made in the Final EIS, Section 3.15.2.9, Social Values, and also at Section 2.9, Social Values of *Appendix L, Socioeconomic Report*.

25-75 As noted by the response to 25-74, both positive and negative aspects to social values of area residents associated with action alternatives are discussed at Section 3.15.2.9, Social Values, of the Draft EIS. The importance of self-employment to the economy of the primary study area and the relatively high proportion of senior residents both are noted by Section 3.15.2.4, Employment and Economic Conditions.

Non-market valuation to estimate the monetary value of qualitative considerations such as environmental or quality of life values are not to be included with the EIS process. The following specific citation is noted for NEPA documents at 40 CFR, Section 1502.23, it reads as follows:

> For purposes of complying with the Act (NEPA), the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.

The Draft EIS does not assume that coal mining is the basis of the local economy and engine driving local development. Section 3.15.2.4, Employment and Economic Conditions, notes that the mining employment has declined by 65 percent between 1980 and 1996, while total employment in Delta County increased by 27 percent. Data in Section 2.4, Employment of *Appendix L, Socioeconomic Report*, indicates that mining accounts for less than 3 percent of total employment in Delta and Gunnison counties combined as of 1996.

25-76 The role of mining in the economy of the primary and secondary market areas is quantified and described in Section 3.15.2.4, Employment and Economic Conditions, of the Draft EIS and further elaborated by Section 2.4, Employment of *Appendix L, Socioeconomic Report*. The comment regarding instability of mining is noted as stated, with no further response.

25-77 The primary study area was defined based in large part on residential locations of mine-related employees. As noted by *Table 2, Where Mine Workers Live*, of *Appendix L, Socioeconomic Report*, approximately 88 to 96 percent of the current employees of the Bowie and Oxbow mines live in Delta County. If the primary study area were restricted to the North Fork Valley only, the portion of Bowie and Oxbow mine employees accounted

for would drop to 57 to 71 percent. It should be noted that the range in the percentages depends on the data sources used. This discussion is predicated on an assumption that the communities of Paonia, Hotchkiss, and Somerset would be included in the definition of the North Fork Valley.

This more inclusive definition of Delta County as the primary study area avoids leaving out the 39 to 43 percent of mine workers who live in Delta County but not in the North Fork Valley. It also offers the benefit of more readily available data – for estimation of multiplier effects (available only on a countywide basis) and fiscal effects.

The inclusion of all of Gunnison County within the secondary study area is admittedly more problematic with employment and housing limited primarily to Somerset. However, the Elk Creek Mine is located in both Gunnison and Delta counties, important to the calculation of the fiscal effects of mining operation -- more specifically property taxes. For example, under Action Alternative B, Gunnison County is estimated to receive almost $125,000 annually in property taxes associated with mine activity at Elk Creek.

Section 1.0 of *Appendix L, Socioeconomic Report*, notes these issues with the statement:

> The larger secondary study area includes all of Delta and Gunnison counties. Gunnison County may also experience direct fiscal effects. Other Gunnison County direct effects will be focused largely in the unincorporated area of Somerset due to the geographic location of the mines away from other Gunnison centers of population.

25-78 See response to comment 25-76.

25-79 Section 3.15.2.4, Employment and Economic Conditions, notes the association of population migration with population growth. A more detailed analysis to ascertain all of the factors related to current and projected population growth could require extensive demographic and economic modeling that is beyond the scope of the NEPA process and this EIS.

25-80 The Draft EIS addresses neither the percentage of homes in Delta County owned by coal employees nor the percentage of coal mine employees that own/rent their homes. Both items are beyond the scope of the Draft EIS.

The number of mine employees in the study area is detailed by *Table 2, Where Mine Workers Live*, in *Appendix L, Socioeconomic Report*. For the Bowie and Oxbow mines combined, 89 percent are within the primary study area of Delta County and another 2 percent live in Gunnison County (including Somerset). Another 9 percent live outside the two-county area. The available data does not distinguish between upper management and other employees.

25-81 Data regarding racial and ethnic make-up and distribution of employees by age has not been included and is not part of the scope of the EIS. These data items, together with home ownership item (see response to 25-80) were not identified as issues to address during the scoping process.

25-82 The comment that unemployment is not necessarily an accurate reflection of local economic vitality is noted and is added both to the Section 3.15.2.4, Employment and Economic Conditions, discussion of employment and economic conditions) and to the more detailed Section 2.4, Employment, (discussion of employment in *Appendix L, Socioeconomic Report*). Getting more detailed information about occupational

characteristics of the unemployed is beyond the scope of this EIS.

The correlation between employment growth and population migration is readily apparent from the data reviewed and hence was included in the Draft EIS. This does not preclude the ability for population growth to influence economic conditions as is noted by the response to comment 35-75.

Using "Trending" techniques is beyond the scope of the EIS.

Increased production of mining is described in Section 2.4, Employment of *Appendix L, Socioeconomic Report*. Coal production, employment, and productivity trends are included in the EIS at Section 3.15.2.4, Employment and Economic Conditions, and in *Appendix L, Socioeconomic Report*, at Section 2.4, Employment.

Location of mine workers was obtained from the proponent mine companies and state tax records, as presented in *Table 2, Where Mine Workers Live*, of *Appendix L, Socioeconomic Report*. The proponents have indicated that the existing workforce would be used for any new mining activities resulting from the EIS and ultimate awarding of a coal lease from the BLM.

Increased production of mining is described in Section 2.4, Employment, of *Appendix L, Socioeconomic Report*. Information regarding immigrants to the study area and now employed by the mines likely is not readily available without a survey of existing operations employees and is not part of the EIS scope.

25-83 The comment regarding the trade-off of income for quality of life attributes is noted and reflected in revisions to Section 3.15.2.5, Income, of the Final EIS. Data regarding dependence of coal mine employees and stability of continued employment has not been obtained and is beyond the scope of the EIS.

25-84 Baseline capacity information for community and public service providers is documented in 3.15.2.6, Community and Public Services (and in more detail by Section 2.6, Community and Public Service of *Appendix L, Socioeconomic Report*). EIS documentation is based on contacts with each of the service providers noted. Community and public service providers reported information in a manner and format chosen by each provider.

The intent of the data compilation of analysis has been to identify services most likely to be affected by alternatives presented in the EIS. A detailed analysis of service provider wedge trends and source of clientele is beyond the scope of the EIS. Where differential (or disproportionate) uses of specific services by mining-related employees or activities can be documented, these have been noted in the EIS.

For example, *Appendix L, Socioeconomic Report*, to the Draft EIS notes vocational programs of particular importance for mine workers (Section 2.6.2), and mine-related issues related to ambulance service (Section2.6.3), fire protection (Section 2.6.4), law enforcement (Section 2.6.5), hospital medical services (Section 2.6.7), electrical utilities (Section 2.6.8) and roads (Section 2.6.10).

25-85 Section 3.15.2.7, Fiscal Conditions, is intended to provide a brief overview of major revenue sources and expenditure categories on both the state and local government level. Any fiscal analysis of this type tends to be relatively complex because of the number of public agencies and funding sources involved. A more detailed supplemental discussion of

fiscal conditions is provided by Section 2.7, Fiscal Conditions, of *Appendix L, Socioeconomic Report*.

Historical information showing tax funding returned to communities and how energy impact dollars historically have been applied has been received through meetings with other agencies; however, we decided the presentation of such detail in the Final EIS is outside the scope of the EIS.

Eligibility for the energy impact grant program is based on a competitive process. Funds are designated to be used for planning, construction, and maintenance of public facilities or for public services. Priority is given to projects within affected communities. It is up to each affected agency to apply for these funds, as monies are not automatically distributed to agencies. For example, town of Hotchkiss representatives noted during the community service interview that the town had not received a grant from the energy impact fund in some years.

Added narrative regarding the energy impact grant program is included with the Final EIS, Section 3.15.2.7, Fiscal Conditions and Section 2.7.6, Federal Royalties of *Appendix L, Socioeconomic Report*.

A summary projection of revenues that would come back to local communities is provided with Section 3.15.3.3, Socioeconomic Effects Common to All Action Alternatives. A more detailed discussion is provided by Section 3.5, Fiscal Effects for All Alternatives, of *Appendix L, Socioeconomic Report*, including the chart listed as *Table 34, Direct Fiscal Effects by Action Alternative During Operations*, in the Draft EIS.

25-86 A description of recreational facilities on land affected by the action alternatives is provided by the Section 3.13.2.9, Recreation, discussion of land use. This reference is being noted in *Appendix L, Socioeconomic Report*, of the Final EIS (Section 2.8, Recreation). A description of recreation activities more generally found throughout the primary study area also is provided with the Section 2.8, Recreation, discussion in *Appendix L, Socioeconomic Report*.

A detailed analysis of businesses relying on access to recreation opportunities is beyond the scope of the EIS. This level of detailed analysis is not pertinent to ascertaining effects of action alternatives since, as indicated by Section 3.13.2.9, Recreation, there are no developed recreation facilities operated by the BLM or Forest Service in the proposed coal lease tracts or exploration license area. Other dispersed recreation activity does occur in the area, but on a limited basis and with no specific quantifiable data readily available.

Travel spending is defined as "purchases by travelers during their trip, including lodging taxes and other applicable local and state taxes paid by the traveler at the point of sale." This definition is being included with Section 2.8, Recreation, of *Appendix L, Socioeconomic Report*, of the Final EIS.

25-87 As noted in the introduction of Section 3.15.2.9, Recreation, the social values analysis is based on information derived from two sources: (a) interviews with community and public service providers and (b) pyschographic data. As is further detailed in Section 2.9, Social Values, of *Appendix L, Socioeconomic Report*, pyschographic data is compiled by the private firm Claritas which profiles demographic and life style preference information for every county in the United States.

The statement regarding values of new residents is based on interviews conducted with

community and public service providers. The Draft EIS does not purport to estimate the number of people who value mining. This type of quantitative research is not part of the scope for the EIS.

Section 3.15.2.9, Social Values, does not include a statement that it is only urban refugees who are opposed to impacts that are created by mining. This Section also does not use the term "urban refugees."

The comment that the community is not homogenous is noted as part of the expanded discussion with Section 2.9, Social Values of *Appendix L, Socioeconomic Report*. The supplemental comment that people within a particular group either support and/or are concerned over impacts of mining is noted and is being included within Section 3.15.2.9, Social Values, of the Final EIS and Section 2.9, Social Values of *Appendix L, Socioeconomic Report*.

As noted by discussion of Section 2.9, Social Values of *Appendix L, Socioeconomic Report*, the characterization of "rustic living" is that of the national pyschographic research firm Claritas. As with all data providers, there is a potential margin of error based upon data sets available. The range of error increases in situations where communities are experiencing rapid turnover in population or demographic changes. The margin of error also is inevitably greater with timing of this Draft EIS in 1999 – almost a decade beyond the benchmarking data provided by the decennial U.S. Census.

However, data of national firms such as Claritas attempts to capture these changes by also incorporating more recent information from sources including the U.S. Bureau of Economic Analysis and Internal Revenue Service. The Claritas definition of the "rustic living" category indicates that these households often, though not exclusively, make their living from the land – including such activities as agriculture, mining and construction.

While the socioeconomic analysis conducted for the Draft EIS does indicate some decline in natural resource-based employment, data presented by *Table 4, Employment Trends by Sector*, of *Appendix L, Socioeconomic Report*, also indicates that 21 percent of the employment base of the secondary area is comprised of workers employed in natural resource-created activities including agriculture, mining, and construction – twice the proportion as the statewide case. While employment in agriculture and mining has declined, construction jobs have increased to nearly offset this decline.

The lifestyles of these households can be reflected in the preference of other area households who often may enjoy "rustic living" even though they earn their livelihood from other sources. Some of those engaged in non-farm self-employment also may share socioeconomic characteristics of households defined in the rustic living category based on education levels, incomes and age.

In summary, the Section 3.15.2.9, Social Values, analysis is based on the most current information readily available. Any further information would require additional primary research which is beyond the scope of this EIS.

25-88 The IMPLAN model was developed for the Forest Service by the University of Minnesota. It is an input-output model, updated annually, that identifies linkages between different sectors of the economy for every county in the United States. The model has the capability to be modified or customized to incorporate local data or other information useful to tailor the analysis to the unique circumstances of a particular industry in a specified county or group of counties. The overview description of the IMPLAN model is

provided as footnote 20 in Section 3.0, Socioeconomic Effects of *Appendix L, Socioeconomic Report*. A more detailed description is provided as part of this portion of the Final EIS document. See also response to comment 9-4.

25-89 IMPLAN based multipliers do reflect leakage with purchases made outside the primary or secondary study area. Consequently, no further adjustment to the multipliers applied is deemed appropriate. One of the basic components of the IMPLAN model is tracking inputs (industry purchases) and outputs (industry sales) of industries throughout the United States. Based on the typical spending patterns of each industry and a study area's industry mix, the IMPLAN model estimates the amount of "leakage" (the amount of money that flows outside the study area) that occurs within a particular study area. Leakage may result from imports, employees hired outside the immediate study area, profits distributed to entities outside the study area, etc. Also, leakage affects the size of economic impact felt within the study area. For example, the greater the amount of leakage, the smaller the multiplier.

A description of the IMPLAN model is provided as part of the introduction in Section 3.15.3, Environmental Consequences, and in footnote 20 to Section 3.0, Socioeconomic Effects of *Appendix L, Socioeconomic Report*. This description is being expanded as part of the Final EIS document.

25-90 See response to comment 25-75 regarding non-market valuation. Remainder of comment is noted with no added response.

25-91 Quantitative estimates of potential impacts of Alternative A (No-Action) do reflect what the comments refers to as "worse case scenarios," or what the Draft EIS describes as "maximum potential effects."

The range of actual effect experienced could vary widely, up to the maximum effects noted. As is described at several points in 3.15.3.2, Socioeconomic Effects of Alternative A (No-Action) the extent of the effects actually experienced will depend in large measure on whether those whose mine-related employment ceases choose to remain in the area or relocate outside the study area.

It is difficult to reliably predict the extent to which this relocation would occur. These household decisions will depend upon a number of factors including strength of the local economy to provide alternative employment, age of the employee, employment available to household members, and personal/household preferences.

Use of historical data (as from 1986) would be problematic and is not included within this EIS for four reasons: (a) reliable historical data tracking relocation decisions would be difficult and expensive to obtain; (b) patterns of in/out migration occur for multiple reasons making it difficult to quantitatively and definitively link population changes to a single event (i.e., mine closure); (c) economic and household lifestyle choices made in 1986 likely occurred under very different conditions than would be the case almost 15 years later; and (d) a supplemental and historical analysis was not included as part of the scope for this EIS.

25-92 As described by Section 2.4, Employment, of *Appendix L, Socioeconomic Report*, as of 1997, over 94 percent of the coal produced in Colorado was sold to domestic customers in the United States, with about 45 percent of coal sold in-state. While a specific estimate is not provided in the Draft EIS document, it can be expected that a relatively small proportion of the coal resource remains in the immediate community (i.e., study area) for

domestic purposes.

Also noted in the discussion in *Appendix L, Socioeconomic Report*, is that the distribution of coal sales would vary over time depending on domestic and global market conditions. The geographic market for Colorado coal is also affected by transportation costs, with customers in nearby states typically representing major components of demand.

Financing of mine operators – including discussion of corporate profit – is precluded from discussion by NEPA regulations and, therefore, are not included with this EIS.

25-93 None of the local government or service providers contacted provided data that delineates the share of infrastructure-related expenses attributable to mining activity versus other existing system uses. This analysis likely would require extensive cost of service data collection and analysis and is beyond the scope of this EIS.

25-94 Effects of the action alternatives on land ownership and values are addressed by Section 3.15.3.3, Socioeconomic Effects Common to All Alternatives, of the Draft EIS.

25-95 For ease of reference, and often due to the larger scale and nature of illustrative material, all figures – graphs and charts – are provided as a separate companion document to the EIS.

25-96 Editorial corrections have been made in the Final EIS.

25-97 The authorization for actual mining or surface disturbing activities is not given with a lease, rather tit is given with a Colorado DMG and OSM approved permit and plan, to which the leasing agency(ies) must concur. A lease grants the lessee right of entry and exclusive rights to the coal in the lease. The Final EIS has been changed to; "Granting a lease gives the lessee exclusive rights and right of entry to the coal resource, however, actual mining activities must be authorized under the permitting process described later in this section.

25-98 In Section 1.9.3, Bowie No. 2 Coal Mine, in the Draft EIS, we acknowledged that Bowie had filed permit revisions with the Colorado DMG. However, at the time of release of the Draft EIS (September 3, 1999), Bowie had not received approval of these permit revisions from the Colorado DMG.

With the approval of the Bowie permit revisions by the Colorado DMG, we have revised the discussion in Section 1.9.3, Bowie No. 2 Coal Mine, to reflect the conditions as of the time of release of the Draft EIS and to include discussion of Bowie's approved permit revisions.

25-99 We have modified Section 1.9.3, Bowie No. 2 Coal Mine, to indicate the likelihood that a new train loadout would be constructed and connected directly to the Bowie No. 2 Mine, if Bowie is the successful bidder for the Iron Point Coal Lease Tract.

25-100 The Sanborn Creek Mine is currently permitted at 4.8 million tons a year with the Colorado Air Pollution Control Division. As part of the EIS process, Oxbow requested that we examine production rates up to 6 million tons for Oxbow from either the Sanborn Creek or Elk Creek portals. At this time, Oxbow has made no proposals to the Colorado DMG or OSM for increasing production to 6 million tons per year.

25-101 Existing information supplied by Mountain Coal Company indicates production of 8.2

million tons per year of coal from the West Elk Mine in the year 2005. We have no knowledge that Mountain Coal Company has any plans to increase production to 10 to 12 million tons per year. We are aware that Mountain Coal Company is considering a new portal facility.

25-102 The No-Action Alternative assumes no leasing would occur and that the exploration license would be denied. Details of the No-Action Alternative are found in Section 2.3, Alternative A: No-Action Alternative.

25-103 Effects of logging have been considered in the analysis. See Section 1.9.7, Logging, in the Final EIS. See also Section 3.5.2.2, Project Area Surface Water Hydrology, and Section 3.13.2.5, Timber Operations, in the Final EIS. Effects of road construction are discussed in the appropriate resource sections. For example, see Section 3.9, Terrestrial Wildlife. According to *Figure 4, Iron Point Exploration License Plan*, access to the license area would primarily be from the south with some limited ingress from upper Terror Creek drainage.

25-104 Additional information has been obtained from the Union Pacific Railroad regarding its plans for the construction of a new siding on the North Fork Branch. We have added this discussion to Section 1.9.13, Railroad Maintenance/Improvements.

25-105 We have revised the discussion under Section 1.11, Issues Outside the Scope of this EIS, to address your comment.

25-106 Discussion of the presence of roadless areas within the three project application areas is discussed in Section 3.13.2.10, Roadless Area Review. The President's Roadless Initiative was announced on October 13, whereas the Draft EIS was released for public comment on September 3, 1999. The following has been added to Section 3.13.2.10, Road Area Review, in the Final EIS:

> On March 1, 1999, Forest Service Chief Mike Dombeck proposed a moratorium on the construction and reconstruction of roads in Roadless Areas, including RARE II areas on National Forest System lands. The moratorium is in effect for 18 months or until a policy is developed, whichever comes first. If implemented (and depending on the provisions of implementation) the moratorium could postpone or prohibit construction of new roads, or reconstruction of existing roads, that may be used for coal exploration or other coal-related purposes in RARE II areas. The decision(s) in this EIS will comply with the policy in effect at the time of the decision. A lease notice will be attached to each of the leases and license considered in this EIS informing the potential lessee/licensee that lands within the application area are subject to the moratorium (see Appendices I and J).
>
> On October 13, 1999, President Bill Clinton directed the Forest Service to develop a proposal to protect inventoried roadless areas on National Forests. At the time of preparation of this Final EIS, public scoping on the proposal had been initiated. A final rule is expected by late 2000. The decision(s) based on this EIS will comply with the policy in effect at the time of the decision.

25-107 The Federal Transit Administration noise impact criteria that were used in this EIS were based on numerous historical studies of community annoyance caused by outdoor noise. The commentor is directed to the document referenced as "Federal Transit Administration, 1995" for a summary of these historical studies.

25-108 Cumulative impacts are discussed for the individual disciplines in Chapter 3.0, Environmental Analysis, of both the draft and the Final EIS.

25-109 We have revised Section 3.3.3.5, Affects of Alternative C, as per your comment.

25-110 None of the coal mines in the project area are subject to PSD, so none of the emission increases were compared to PSD thresholds.

25-111 Modeling of fugitive dust impacts along State Highway 133 (which is mainly caused by non-coal related public traffic) is beyond the scope of this EIS.

25-112 As stated on page 2-23, a more detailed description of the preferred alternative is given in the Executive Summary (page S-5) of the Draft EIS. Please also see response to comment 20-7.

25-113 Comment noted.

25-114 Comment noted.

25-115 Comment noted.

25-116 Comment noted.

25-117 Comment noted.

26-1 Comment noted.

26-2 See response to comment 18-1.

26-3 The Draft EIS explains that "Two areas of high to moderate impacts (subsidence induced impacts to groundwater resources) have been identified for Hubbard and Terror Creek drainages." Section 3.6.3.3, Effects Common to All Action Alternatives, page 3-106, last paragraph, and 3-107, paragraph 4. This is also addressed in Section 3.6.3.1, Summary, page 3-105 of the Draft EIS. Please refer to response to comment 18-7. Transbasinal diversion with respect to Hubbard Creek is discussed in Sections 3.6.3.3, Effects Common to All Action Alternatives, and 3.6.4.3, Effects of Alternative B, of the EIS.

26-4 Information regarding subsidence in the EIS document are primarily based on subsidence data documented by Dunrud in *Appendix K, Subsidence Evaluation*. Any consultation given is based on measured documentation in *Appendix K, Subsidence Evaluation*. As addressed in response to comment 18-1, documentation in *Appendix K, Subsidence Evaluation*, is based on verifiable subsidence data from the West Elk longwall mining area, the room-and-pillar mines in the Somerset area, and on the National Coal Board (NCB) empirical conceptual model that was adapted to vertical displacement (subsidence), tilt, and horizontal strain information from these local mining areas. Also, as discussed in response 18-1, the range of angles of draw measured in this local area are documented in Section 7.4, Draw Angle (limit angle, angle of draw), page K-17 of *Appendix K, Subsidence Evaluation*. Vertical displacement, tilt, horizontal strain, draw

angle, and break angle are directly correlatible with similar measured data obtained from local mining areas. This is the standard procedure used in subsidence engineering practice.

As a verification that the NCB model is correctly adapted to local geologic and mining conditions, a Comprehensive and Integrated Subsidence Prediction Model (CISPM), by Syd S. Peng and Yi Luo, Department of Mining and Engineering, West Virginia University, was used at the mine permitting state, to further evaluate subsidence, tilt, and horizontal strain. The CISPM model, which was developed by one of the world's leading subsidence authorities, verified the validity of the adapted NCB empirical conceptual model. This modeling also indicated that the NCB model was slightly more conservative than the CISPM model.

Predicted subsidence, tilt, and strain data from the NCB model were a few percentage points greater than those predicted by the CISPM model. Although it may be advisable to predict subsidence parameters by two independent methods at the permitting stage, the fact that the NCB model predictions are conservative when compared with the CISPM method further validates the correctness of the NCB model as adapted to local geologic and mining conditions at the EIS stage.

26-5 The subsidence evaluation in the EIS is completed for the purposes of the BLM and Forest Service decision-makers for coal leasing. The decision-makers need enough information to understand the mechanics and dynamics of subsidence in order to be able to target areas and/or structures to be protected from the impacts of subsidence.

If the tracts are leased, the lessors are responsible for submitting detailed mine plans and subsidence survey, monitoring and control plans to the Colorado DMG and OSM. See Section 1.5, Decisions to be Made, in the Final EIS. See also Section 2.05.6(6) of the Regulations of the Colorado Mined land Reclamation Board for Coal Mining.

In the RODs issued by the BLM and Forest Service, stipulations are attached to the leases that specify the need for items such as water augmentation plans and plans to protect areas and/or structures from the impacts of subsidence. The Colorado DMG and OSM must consider such stipulations in their permit and mine plan approval processes. See also responses to comments 3-3 and 3-10, and *Appendix C, Unsuitability Analysis Report - Iron Point Coal Lease Tract (COC-61209)* and *Appendix D, Unsuitability Analysis Report - Elk Creek Coal Lease Tract (COC-61385)*, of the Final EIS.

26-6 The EIS analysis is based on coal being extracted using the longwall mining technique. With longwall mining, subsidence occurs shortly after the coal is extracted (see *Appendix K, Subsidence Evaluation*, of the EIS, Section 7.6, Rate and Duration of Subsidence, and response to comment 35-7). Subsidence associated with longwall mining does not prevail over decades, rather it occurs over months. As is documented in *Appendix K, Subsidence Evaluation*, Section 3.6, Seismic Activity, the bulk of seismicity experienced in the area is from historic mining areas. The theory and design of a longwall mining operation are based on the immediate collapse of the strata to equalize stresses in the overburden rock mass. As this occurs, there are very little long-term stability issues, even if the workings flood. Areas that have been longwall mined are typically inaccessible after the mining is complete. Pillars in development entries would be designed to stand for the long-term (see also responses to comments 18-4 and 35-51.)

26-7 Identifying the dynamics of the insurance industry is outside the scope of the EIS. See also *Table 3.3-1, Potential Mitigation and Monitoring Measures for Subsidence*.

27-1 Comment noted.

27-2 Comment noted.

27-3 Comment noted.

27-4 Comment noted.

27-5 We concur.

27-6 The listing of CO_2 was a typographical error. We have corrected this typo to read CO (as carbon monoxide).

28-1 As noted by the Section 3.15.1, Introduction, the primary study area represents the geographic area of focus because this is the geographic area anticipated to be most directly affected by the action alternatives. Discussion of the secondary area is particularly important in assessing fiscal impacts, because the coal production of the Elk Creek Mine occurs in both Delta and Gunnison Counties. Recently, most of the coal production in the North Fork area has occurred in Gunnison County, but the majority of the mining workforce lives in Delta County. The tertiary area is most relevant to assessing the broader socioeconomic context of the seven counties of Colorado Central Western Slope – especially for the social values assessment.

Throughout the analysis, information is portrayed for the primary study area. The analysis expands to cover secondary and tertiary areas and the state when important to understanding of the broader effects of the alternatives considered or to provide a context and framework for comparison with primary study area conditions.

The discussion related to shifting of coal mining activity attempts to portray a complex two-county situation as clearly as possible. The comment that Delta County citizens have been most impacted by the mining rebound is consistent with the Draft EIS analysis, and is the reason Delta County is identified as the primary study area.

Providing comparisons between primary, secondary and tertiary areas throughout the report would extend considerably beyond the NEPA purpose to focus the analysis on pertinent effects and is therefore beyond the scope of the EIS.

Adding the North Fork as a separate unit of analysis would add a further level of geographic detail. As is indicated by the response to comment 25-77, the North Fork was not selected as the primary study area because 39 to 43 percent of current mine employees reside outside the North Fork area.

28-2 Discussion of the overall approach to the time frame used is provided by the response to comment 28.4. Regarding housing sales data, the information presented was the most up-to-date. Information was obtained from Region 10 report sourcing Delta and Gunnison County Assessor offices. Representatives from each agency indicated that this information was the best available. No data prior to 1994 was readily available.

28-3 Annualized data typically has not been averaged. For example, with the employment data shown by *Table 4, Employment Trends by Sector*, to *Appendix L, Socioeconomic Report*, data is provided for the most recent year available (1996) with an overall percentage change indicated for the years 1990-1996. A similar approach is taken with respect to wage data (as per *Table 5, Average Wage Per Worker by Sector* (inflation adjusted) of

Appendix L, Socioeconomic Report). In effect, the approach taken is to compare two points in time – by indicating the most current conditions for which data is available and then the percentage change from an earlier time period.

With regard to the comment regarding changes in the forces driving in-migration, see responses to comments 25-79 and 25-82. Furthermore, on page L-6 in *Appendix L, Socioeconomic Report*, the EIS notes that the service sector is the fastest-growing industry since 1980.

28-4 Time frames for presentation of data generally are chosen on the following basis:

- A long-term rather than short-term perspective covering the 1980-present period is applied when pertinent comparable data is available.
- When data is not readily available on a comparable basis for a period extending back to 1980, a shorter time frame consistent with data availability is used.
- For general understanding of current and historical conditions, two points in time are compared rather than a more detailed year-by-year or every other year basis. Presentation of additional annual data is useful only insofar as it may be important to subsequent evaluation of the effects of EIS project alternatives considered.
- Earnings are presented on both an individual basis (by source) in a narrative in *Appendix L, Socioeconomic Report*, Section 2.5, Income and, on a sectoral basis, *Table 5, Average Wage Per Worker by Sector* (inflation adjusted).

All employment data is for number of workers whether full or part-time (including self-employed) based upon the way this data is compiled by the U.S. Bureau of Economic Analysis (BEA).

28-5 Data is provided from published sources generally deemed to be reliable, although the Socioeconomics consultant does not guarantee the accuracy of data from third-party sources – whether public/non-profit agencies or private firms. It is not within the scope of this EIS to cross-check the validity of data from what are generally believed to be reputable sources – unless a specific issue or irregularity with a particular data item or source can be identified.

As noted by the response to 28-4, BEA data is for full and part-time employment (including self-employed).

The tourism data presented in the EIS was prepared for the Colorado Tourism Board by an independent third-party firm, Dean Runyan Associates. Dean Runyan Associates has developed a widely-accepted model to estimate tourism expenditures, payroll, employment, etc. The firm prepares annual estimates for six states (California, Colorado, Oregon, North Dakota, Texas, and Washington). In addition to preparing annual reports and other related tourism studies for these six states, Dean Runyan has also completed numerous tourism-related studies in Alaska, Idaho, Nevada, and South Dakota.

28-6 The Claritas classification of households into 15 groups uses a standard methodology across the United States. The analysis approach is objective and comprehensive; empirical data from the U.S. Census and other more recent sources is consistently applied to every county in the United States. The categories noted for the primary,

secondary and tertiary areas are not unique to these Colorado counties, but are county-wide categories.

Limitations exist to application of information from any national demographic or psychographic firm – particularly as more time elapses from the last decennial census. These limitations are noted by the response to comment 25-87. However, the major advantage of a private data source such as Claritas over other available sources (such as United State Census) is that the Claritas data is current and updated beyond the date of the last decennial census. Also noted is that, for the social values discussion, Claritas data was supplemented with qualitative information gathered as part of the community service providers survey.

The only readily available source regarding education of the adult population is the U.S. Census, for which most recent information is as of 1990. For counties experiencing rapid demographic changes, application of nine year old information is less useful.

Information related to self-employment (including home occupations) is provided by *Table 4, Employment Trends by Sector* and *Table 5, Average Wage Per Worker by Sector (inflation adjusted)* of *Appendix L, Socioeconomic Report*.

28-7 The preparers of this socioeconomic analysis are not aware of any comparable recent social values analysis prepared by other organizations including the Coal Working Group or Delta/Montrose/Ouray Partnership. If available and conducted recently by an independent third party source, this information might be incorporated in the document text or as a separate appendix. It is noted that the commentor indicates with response to comment 28-9 that the only pertinent research of this type conducted in Delta County was in the 1970s.

28-8 The statement "Delta County has not yet experienced the rapid in-migration occurring elsewhere in counties of Colorado's Central Western Slope region; however, there is evidence of growing difference in social values of newcomers versus long-time residents" relates to the *Social Values* (Section 2.9) discussion pertaining to the fact that the social values data analyzed suggests that Delta County is not experiencing the *same level* of change in "social classes" (or groups) as other parts of the Western Slope region. For the Final EIS, the sentence is modified to read:

> Delta County has not yet experienced the rapid in-migration <u>of new social groupings as</u> occurring elsewhere in counties of Colorado's Central Western Slope region; however, there is evidence of growing difference in social values of newcomers versus long-time residents.

28-9 As noted by the response to comment 25-87, the basis for the statement in the Draft EIS comes from interviews conducted with community and public service providers for Section 3.15, Socioeconomics. Other recent independently-conducted social values research, if available, would be useful and could be incorporated into the document if available. However, the commentor indicates that the only pertinent research conducted on this subject in Delta County was by two doctoral students in the 1970s. With research more than two decades old in a rapidly changing community, this information is not readily applicable to current conditions in Delta County.

28-10 The socioeconomic analysis (including the assessment of fiscal effects) addresses both on-site and off-site effects – delineated as direct, indirect and cumulative effects.

With regard to the comment about baseline capacity information for community and public service providers, see response to 25-84.

28-11 Reasons for use of IMPLAN input/output model rather than REDP are provided by response to 9-4.

28-12 Comment noted.

29-1 See Section 1.2, Background, in the Draft EIS.

As a part of the EIS process, we are maintaining an administrative file that includes the environmental assessment (EA) documents that were prepared for both the Iron Point and Elk Creek Coal Lease tracts.

29-2 See response to comments 25-9 and 25-26.

29-3 See response to comment 25-25.

29-4 See response to comment 25-108.

29-5 Please refer to response to comments 25-2 and 25-8. The impact analysis performed in Chapter 3.0, Environmental Analysis, was prepared based on an "analysis area" appropriate for each particular resource to account for potential impacts outside the boundaries of the project area. For example, the surface water hydrology analysis area was defined by watershed boundaries of local drainages (Draft EIS Section 3.5.1, Introduction and *Figure 16, Regional hydrology Map*) and the air quality analysis area extended to Class I viewshed area in the West Elk Wilderness and Black Canyon of the Gunnison National Park (Draft EIS, Section 3.1, Air Quality/Climate and *Figure 9, Emission Sources and Wilderness Area Receptors for Visibility and Acid Deposition Modeling* and *Figure 10, Emission Sources and Viewer for PLUVUE Modeling*). By contract, the soil analysis area needed to consider areas within the project area boundaries (see *Figure 15, Soils Map*). The three proposals evaluated in this EIS were combined into one environmental document because of their relation in time and proximity, and follow the procedures of the coal leasing regulations, and best serve the purposes of NEPA (Draft EIS, page 1-2).

29-6 As explained in Section 8.0, Role of Government Agencies and Private Entities, in the EIS Scoping Summary Document (dated July 1999), Bowie and Oxbow are responsible for funding an independent consulting firm to prepare the EIS and related documents. The BLM and Forest Service maintain direct control and supervision of the third-party contractor. See also response to comment 35-2.

The BLM and the Forest Service are the federal lead agencies under NEPA responsible for preparation of the North Fork Coal EIS. OSM is participating in the preparation and review of the EIS documents as a cooperating agency.

The appendix you requested is unnecessary. We would refer you to the July 1999 EIS Scoping Summary Document. We maintain copies of this document in our administrative file. Copies of this document are also available at the Forest Services offices in Delta and Paonia, Colorado as well as the public libraries in Paonia, Hotchkiss, Delta, and Grand Junction. In particular, we would refer you to Section 6.0, The EIS Process, which is contained in the July 1999 *EIS Scoping Summary Document.*

29-7 The sentence simply supports the purpose and need for the EIS. Mining the federal coal on the Iron Point coal lease application, would be a logical extension of an existing mine. The statement shows the relationship of the mining operations anticipated on the lands applied for and the existing mining operations. The coal regulations in 43 CFR 3425.1-7(a)(2)(iii) require the applicant to state the relationship between the mining operations anticipated on the application lands and the existing mining operations in order to show the need for the coal.

29-8 Please also seen responses to comments 25-2 and 29-9. The role of the federal agencies in coal leasing is also discussed in Section 1.3, Purpose and Need, of the Draft EIS, and outlined further in *Appendix B, Agency Jurisdictions (Permits and Approvals)*.

29-9 The following text was added to Section 1.3, Purpose and Need, in the Final EIS.

> The mining and Minerals Policy Act of 1970 states in part that it is the "continuing policy of the federal government in the national interest to foster and encourage private enterprise in...(t)he development of economically sound and stable domestic mining minerals and mineral reclamation industries, ...(and) the orderly and economic development of domestic mineral resources..."
>
> The Federal Land Policy and Management Act of 1976 (FLPMA) specifies that public lands are to be managed in a manner that recognizes the need for domestic source of minerals.
>
> The Multiple-Use Sustained Yield Act of 1960 (MUSYA) declared that National Forest System lands are to be administered for outdoor recreation, range, timber, watershed and wildlife and fish purposes, but also expressly provides that MUSYA shall not be construed to affect the use or administration of mineral resources on national forest system lands.
>
> The Forest Service administers its minerals program to (Forest Service Manual (FSM) 2800 Zero code - WO amendment 2800-91-1 page 3): (rest of text remains the same)

29-10 The RMP evaluated continued development on existing leases and identified additional acreage that was acceptable for further coal leasing consideration. This determination by the RMP is not out of date because the coal regulations require that a site-specific analysis be completed on lands found to be acceptable for further coal leasing consideration to determine the site specific impacts prior to coal leasing. This EIS is the site specific analysis for the two lease applications. It is looking at the impacts resulting from longwall underground mining methods. In addition, in the future, the BLM may decide to amend the RMP to update all resources, including coal.

29-11 In law, regulation, agency policy, and case law relating to the management of the NEPA process the agencies are given the prerogative and the responsibility to identify those "significant environmental issues" which are deserving of study and which should be considered in an EIS. While issues such as those referred to in this comment are important to those suggesting them, they are not information which, if studied and included, would substantially improve the decision process. NEPA is intended to support reasonably informed decision making, and is not intended as a vehicle for study beyond that purpose.

29-12 CEQ regulations (40 CFR 1502.14(e)) direct that the agencies identify the preferred alternative in a Draft EIS. By identifying a preferred alternative at the draft stage, the

public is informed of the potential outcome and can provide comment such as occurred here. Depending on public comments received on the draft and any new information brought forward between and draft and Final EIS, the alternative selected upon which the final decision is based may differ from what was identified in the draft as "preferred." The No-Action Alternative (Alternative A) is required by 40 CFR 1502.14(d) and is discussed in Section 2.2, Formulation of Alternatives and Section 2.3, Alternative A: No-Action Alternative, of the EIS. Effects of the No-Action Alternative (Alternative A) which address the present conditions, are disclosed for each resource in Chapter 3.0, Environmental Analysis. Although not an "action" alternative, the No-Action Alternative (Alternative A) remains a selectable alternative for the decision-makers. Please see the Final EIS and the RODs for the selected alternative, and environmentally preferred alternative. See also response to comment 16-21.

29-13 Bowie has recently received approval from the Colorado DMG to mine up to 5 million tons of coal per year. See Section 1.9.3, Bowie No. 2 Coal Mine, in the Final EIS.

29-14 Please refer to the second portion of response to comment 25-11. The Colorado DMG as the authorized agency to enforce the terms of SMCRA oversees and enforces the terms of the actual mine permit. Colorado DMG has the authority to levy fines for non-compliance. The public has the right to see any monitoring data collected by the mines under their permit, and has the right to be heard on any permitting actions that may occur. In addition, BLM has the authority to ensure that the lessee or licensee follows all the terms, conditions and stipulations placed on a federal coal lease or license. See also *Appendix B, Agency Jurisdictions (Permits and Approvals)*, of the EIS.

29-15 Regarding your comments about impacts to vegetation, we refer you to Section 3.7.3, Environmental Consequences. This section discusses the effects of subsidence on vegetative resources in the area.

29-16 Comment noted.

29-17 See response to comment 25-108.

29-18 The impact discussion for endangered fish species on pages 3-151 and 3-152 of the Draft EIS considered both short-term and long-term effects. Project operations would result in relatively small depletions and minor reductions in their habitat in downstream areas. The Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River is intended to mitigate the short-term and long-term water depletion effects on these fish species.

29-19 You have misinterpreted our discussion about accidents. See response to comment 25-65.

29-20 Comment noted.

29-21 You have misinterpreted the discussion of the No-Action Alternative. See response to comment 25-26.

29-22 We disagree with your comment. We have included mitigation discussions in the EIS. See the following sections:

- 3.1.5, Potential Air Quality Mitigation and Monitoring
- 3.2.5, Potential Topographic Mitigation and Monitoring
- 3.3.5, Potential Subsidence Mitigation and Monitoring

- 3.4.5, Potential Soils Mitigation and Monitoring
- 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring
- 3.6.5, Potential Groundwater Mitigation and Monitoring
- 3.7.5, Potential Vegetation Mitigation and Monitoring
- 3.8.5, Potential Wetlands Mitigation and Monitoring
- 3.9.5, Potential Terrestrial Wildlife Mitigation and Monitoring
- 3.10.5, Potential Aquatic Resources/Fisheries Mitigation and Monitoring
- 3.11.6, Potential Cultural Mitigation and Monitoring
- 3.12.5, Potential Noise Mitigation and Monitoring
- 3.13.5, Potential land Use Mitigation and Monitoring
- 3.14.5, Potential Transportation Mitigation and Monitoring
- 3.15.5, Potential Socioeconomic Mitigation and Monitoring

The ability to review the Final EIS and the Record of Decision are set forth in the letter of transmittal included with the Final EIS.

29-23 Comment noted.

29-24 Comment noted.

29-25 See responses to comments 15-1, 15-6, 25-25, and 25-26.

30-1 Comment noted.

30-2 Mitigation measures related to transportation are discussed in Section 3.14.5, Potential Transportation Mitigation and Monitoring.

30-3 See response to comment 25-25.

30-4 Discussion was added to (surface water) Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring, in the Final EIS, to address the need for a water replacement plan for each affected drainage to be completed prior to mining in the lease areas. At a minimum, the water replacement plan would require, upon injury, replacement of water of suitable quality and water right seniority to provide for all existing uses, and be delivered to existing points of diversion in a timely manner. As part of each water replacement plan, the lessee must demonstrate its legal and physical ability to implement said plan. A source of replacement water may include, but is not limited to, the transfer of water rights, an augmentation plan, a long-term water use lease, or compensatory storage.

30-5 Comment noted.

31-1 Comment noted.

31-2 Comment noted.

31-3 Grade control devices are typically funded from government sources. It should be noted that the NFCWG is assessing grade crossings, including estimating costs for certain grade crossing improvements, and determining funding sources for such improvements. We understand that Bowie and Oxbow offered to contribute money to a fund for such improvements. Also see responses to comments 11-1 through 11-9.

31-4 See responses to comments 25-68, 30-4, and 35-104.

31-5 Comment noted.

31-6 Comment noted.

32-1 Please refer to response to comments 25-2 and 25-7.

32-2 We have delineated both the increase in coal truck traffic and coal train traffic in Section 3.14, Transportation.

32-3 See responses to comments 25-69 and 30-4.

32-4 See responses to comments 25-68, 25-69, and 30-4.

32-5 Comment noted.

32-6 As discussed in Section 1.9.1, Bowie No. 1 Coal Mine, and Section 3.13.2.2, Past and Present Mining Operations, the Bowie No. 1 Mine is currently idle under provisions of a temporary cessation approval from the Colorado DMG. Final closure and reclamation of the Bowie No. 1 Mine would be in accord with permitting requirements of the Colorado DMG. The current permit for the Bowie No. 1 Mine and the Bowie No. 1 Coal Loadout contains provisions for final reclamation activities. The reclamation plan would be reviewed by BLM for appropriate modifications, as required. In addition, the Colorado DMG holds a reclamation bond from Bowie in the event that Bowie fails to meet its reclamation obligations with the Colorado DMG. See also responses to comments 11-7d and 11-7e.

33-1 Comment noted.

33-2 The Draft EIS concluded that homes near railroad crossings are already subjected to unacceptable noise levels caused by trains and train whistles, and additional trains will exacerbate the problem. The Final EIS includes a more detailed "Mitigation" section that recommends additional noise measurements and noise modeling to better define which areas require noise reduction.

33-3 Comment noted.

34-1 Your comments have been included in the public record.

34-2 Resolving disputes about alleged property damage is outside the scope of this EIS. Any claims of property damage should be directed to the Union Pacific Railroad which maintains the North Fork spur and operates the trains using this spur line.

There could be a correlation between train speed and vibration; however, other factors could also contribute to vibration. These include the condition of the track, the grade of the track, the orientation of the track, the number of locomotives, and the weight of the shipments. Regulating speed may or may not reduce vibrations.

34-3 Train speed is not necessarily a factor in highway-rail crashes. In fact, the majority of highway-rail crashes occur when the train is traveling less than 30 miles per hour. The Union Pacific establishes railroad speeds for its trains based on a number of aspects including condition of the track, track alignment, location of the track in proximity to urban and population areas, etc.

34-4 See response to comment 34-2.

34-5 Please see response to comment 27-5. The regulation of these effects falls outside the authority of the BLM or the Forest Service.

35-1 Comment noted.

35-2 Contracting the preparation of NEPA document is provided for in the Council of Environmental Quality's (CEQ) NEPA regulations (40 CFR 1500-1508). At 40 CFR 1506.5 Agency Responsibility, subsection (c), the regulations embrace the use of third-party contractors for doing this work. CEQs 40 questions, number 17 expands on this approach. Proponents have the option of funding a NEPA contract. The BLM and the Forest Service have diligently maintained proper relationships among the coal companies, the contractor and the agencies in accordance with these regulations. The agencies have followed the established procedures for selecting and using third-party contractors. The EIS is the responsibility of the agencies, and the contractor works at the sole direction of the agencies.

This is a common practice in preparing NEPA documents, and does not affect the defensible nature of the document. The agencies have looked at many issues and public concerns related to the proposed actions. As required by NEPA, the agencies have disclosed off-site impacts that are not within their regulatory framework, but have identified with whom the proper jurisdiction lies. The agencies have been attentive to community needs, and supportive of the community efforts, through the NFCWG and others to resolve the community-based issues that fall outside the legal jurisdiction of the BLM and Forest Service.

35-3 Comment noted.

35-4 Comment noted.

35-5 Comment noted.

35-6 See response to comment 28-4.

We have upgraded Section 3.11, Cultural Resources, in the Final EIS. We have added specific cultural resource management recommendations for potential future developments in this area in the Final EIS discussion.

35-7 The risks to renewable resources are discussed in the appropriate resource sections in Chapter 3.0, Environmental Analysis, (i.e., effects to groundwater resources in Section 3.6.3, Environmental Consequences, surface water including water rights in Section 3.5.3, Environmental Consequences, vegetation in Section 3.7.3, Environmental Consequences, and land use in Section 3.13.3., Environmental Consequences). Existing water uses and water rights are discussed in Section 3.5.2.5, Water User/Water Rights, of the EIS. Water replacement stipulations to be placed on the coal leases will require that the lessee replace any water supplies damaged by mining activity.

While subsidence associated with, and the effects of, room-and-pillar mining may not be evident for decades, it is different for longwall mining. The analysis in the EIS is based on using the longwall mining technique. The rate at which subsidence due to longwall coal mining occurs is discussed in *Appendix K, Subsidence Evaluation*, Section 7.6, Rate and Duration of Subsidence. It states that with longwall mining, subsidence is 90 percent

complete when the longwall face is 1.2 to 1.4 times the overburden depth past a reference point on the surface. For example, for a point on the surface where 1,000 feet of overburden is present, subsidence at that point would b e 90 percent complete when the longwall face was 1,200 to 1,400 feet past the point. Assuming a mining rate of 50 feet/day, subsidence would be 90 percent complete in 24 to 28 days. See also Section 3.2.3.2, Effects Common to All Action Alternatives. Because subsidence and overburden deformation occurs over shorter time periods, effects to surface resources tend to be evident in the same time frame. Monitoring that will be required under an approved Colorado DMG mine permit and plan under SMCRA will allow for identifying impacts if they occur. The analysis does disclose that the potential to effect groundwater in the D seam does exist, but that no groundwater rights exist in the area (Draft EIS, page 3-107).

35-8 See responses to comments 15-1, 15-6, 25-25, and 25-26.

35-9 Comment noted.

35-10 See Section 1.3, Purpose and Need, in the Final EIS.

35-11 Comment noted.

35-12 The Final EIS includes additional discussion on the presumed wind direction in the vicinity of Bowie, Garvin Mesa, and Paonia.

35-13 Editorial changes have been made in the revised Air Quality section.

35-14 See response to comment 35-12.

35-15 See response to comment 35-12.

35-16 The EIS disclosed that homes near railroad crossings are already subjected to unacceptable noise levels caused by trains and train whistles, and additional trains would exacerbate their problem. The noise section in the Final EIS was revised to address this comment; see Section 3.12.3.2, Effects Common to All Alternatives.

35-17 The noise measurements and noise modeling for this EIS were adequate to confirm that train noise is causing impacts and to develop a general set of future noise mitigations. The Final EIS acknowledges that future noise surveys might be warranted as part of the detailed design of mitigation measures. See responses to comments 25-40 and 35-16.

35-18 All noise measurements for this EIS were taken before Bowie and Oxbow conducted their own confirmatory measurements. If noise mitigations are required, then follow up noise measurements could be required to enforce their effectiveness.

35-19 Comment noted.

35-20 See response to comment 35-16.

35-21 See responses to comments 25-40 and 35-16.

35-22 Daytime and nighttime noise measurements were taken at four locations on Garvin Mesa during train loading at the Bowie No. 1 loadout. The loadout noise was discernible at some outdoor locations at night and were well above background levels, but the noise levels were not loud enough to disturb indoor activities. *Table 3.12-1, Measured Noise*

Levels at Rural Areas Near Paonia, has been updated to include all of the noise readings taken at Garvin Mesa.

35-23 The L-eq noise levels measured at the railroad tracks included whistle noise. See response to comment 35-16.

35-24 See response to comment 35-16 regarding train whistles, response to comment 35-22 regarding loadout noise, and response to comment 25-37 regarding the use of short-term noise impacts caused by individual trains in addition to the hourly-average impacts that were used for this EIS.

35-25 We expect the coal traffic between the Bowie No. 2 Mine and the Bowie No. 1 Loadout to be fairly consistent, as coal haulage will occur on a 24-hour (round the clock) basis. Also refer to the response to comment 6-1.

35-26 See response to comment 25-65.

35-27 See response to comment 25-14.

35-28 See response to comment 25-65.

35-29 We do not believe that peak train traffic frequency would be more relevant. Historically, there is no accurate way to predict exact traffic frequency on the North Fork Branch. The actual interval between trains is dependent on a number of variables, including coal production, availability of train cars and engines, weather, availability of coal for actual loading, and customer delivery schedules. We believe that *Table 14-5, Unit Train Traffic Frequency on the North Fork Branch*, represents a reasonable approach to present traffic frequency for trains.

The ability to handle increases in traffic is best explained in the response to comment 25-14. Your comment represents the engineering and scheduling dilemma faced by any rail system. You are correct in saying that increasing speeds is one way of accommodating increased coal shipments. On the other hand, if speed reduction is demanded, then additional railroad sidings may be required to accommodate the desired coal shipments. See response to comment 25-14.

35-30 See response to comment 35-29 and *Table 3.12-1, Potential Mitigation and Monitoring Measures for Noise*, in the Final EIS.

35-31 We agree that, if the Iron point and Elk Creek Coal Lease tracts are not issued, the mine operators may turn to other sources of coal to fulfill their contracts, thereby not decreasing the number of trucks and trains in use in the valley. However, there will be no trucks and trains "running around emoty." As addressed in Section 3.14.3.1, Effects of Alternative A (No-Action), the mining companies could continue production, but operations would probably be of shorter duration. See also Section 3.15.3.2, Socioeconomic Effects of Alternative A (No-Action) in the Final EIS.

35-32 See response to comment 35-31.

35-33 See response to comment 25-66.

35-34 We have revised the discussion in Section 3.14.4.4, New Rail Loadout Adjacent to Bowie No. 2 Mine, to clarify the issue raised in your comment. Also refer to the response to comment 25-65.

35-35 See response to comment 25-14.

35-36 Comment noted. We have worked to make appropriate changes in the Final EIS to respond to the comments received on the Draft EIS.

35-37 This issue is addressed in responses to comments 18-1 and 26-4. The subsidence evaluation did consider site specific conditions regarding geology. See *Appendix K, Subsidence Evaluation*, Section 6.1, Subsidence Zones and Section 7.4, Draw Angle.

35-38 The angles of draw, as measured for the room-and-pillar mines in the Somerset area and the longwall mines at West Elk, are nearly the same. As reported in Section 7.4, Draw Angle (limit angle, angle of draw), page K-17 in *Appendix K, Subsidence Evaluation*, measured angles of draw in the Somerset room-and-pillar mining area range from 8 to 21 degrees and the measured angles of draw in West Elk longwall mining area range from 9 to 18 degrees. The 25 degree angle of draw value reported by Agapito (1999) is a conservative value used at the West Elk mine to establish a buffer zone between mine boundaries in relation to mining permit boundaries (personal communication with West Elk mine officials). The true measured values range from 9 to 18 degrees. See also response to comment 18-1.

35-39 See responses to comments 18-1 and 35-38.

35-40 See responses to comments 18-1, 18-11, 26-5, 26-6, and 26-7.

35-41 See responses to comment 10-4, 18-1, 26-4, 26-5, and 26-7. As a general practice, mining engineers evaluating subsidence do not utilize Monte Carlo modeling techniques, nor apply 3 sigma worst case parameters to subsidence predictions.

35-42 This comment is partly addressed in responses to comments 18-4 and 35-102. Further comments are added to provide a complete response:

The United States Geological Survey (USGS) monitored many thousands of coal mine-induced seismic events in Utah during the mid to late 1960s. The epicenters (x, y locations) of these events, which ranged to about 3.1 on the Richter scale, were located near and within the active or abandoned mine workings. However, as described in Section 3.6, Seismic Activity of *Appendix K, Subsidence Evaluation*, the hypocenters (x, y, z locations) of the events large enough to plot accurately (within 1,000 feet), were located thousands of feet below the mine workings in a structural environment that has not been observed geologically or seismically in the North Fork Valley.

The USGS monitored seismic events during a two-week period in the first half of September, 1969 (Osterwald and others 1972). Nearly all of the plotable seismic events, which ranged from 1.8 to 2.7 on the Richter scale, were located in the Somerset mine area between Bear Creek and Hubbard Creek. However, all the tremors that were large enough to accurately plot, were located from 1,000 to 6,000 feet below the mine workings. The tremors were thought to be caused by release and redistribution of stresses along deep structural features that increased during room-and-pillar mining. Although the distribution of seismic hypocenters was related to mining, there was no correlation between the rate of tremor occurrences and mining work cycles during the two-week

period. However, the continuous-recording seismic station on Elk Creek, that was operated from the late 1960s through to the mid 1970s, showed that the seismic events commonly were related to mine work cycles.

The seismic energy increases, particularly within mine workings where coal extraction is incomplete, then decreases again when mining in that area is complete. The energy released is likely to be related more to stress redistribution of overburden load rather than coal production. Coal tonnage removed is insignificant compared to tonnage of the overburden rocks.

Large seismic events may continue sporadically for many years or even decades where large blocks of coal are not extracted such as occurs with room-and-pillar mining, and they can store large amounts of strain energy.

The Elk Creek and Iron Point Lease tracts were subjected to a seismic event measuring 5.2 on the Richter scale (Mercalli Intensity of VI) during the Rulison nuclear shot on September 16, 1969. During the shot, Dunrud observed conditions at a seismometer station located 200 yards south of the confluence of Hubbard Creek and Iron Point Gulch. The location provided an excellent spot to observe any effects on rockfalls and landslides (see *Figure 11, Geologic Hazards Map*) on both sides of the valley. The Rulison nuclear explosion was felt by Dunrud as a very noticeable up and down motion, followed by an even stronger horizontal back and forth motion. No rocks rolled or fell and no new movement on landslides occurred from this vantage point, although a very noticeable vertical and horizontal ground motion was felt.

The agencies acknowledge that mining-induced seismicity may have impacts on the Terror Reservoir dam (see Section 3.5.3.2, Effects Common to All Action Alternatives - Indirect Effects, and *Appendix K, Subsidence Evaluation*, Section 8.4.1, Options in Regard to Mining in the Area of the Terror Creek Reservoir). No proven method of analysis exists for assessing potential impacts of mining induced seismicity on dams. In performing this analysis, the best available information and experience was drawn upon.

Information needs were acknowledged in the EIS (see *Appendix K, Subsidence Evaluation*, Section 8.4, Longwall Mining Beneath Terror Creek Reservoir, and Option 3, last bullet item). Additional investigation into mining-induced seismicity impacts on dams shows that research is limited. Further discussion with scientists at the National Institute of Occupational Safety and Health (NIOSH) regarding mining-induced seismicity indicate that the relationships needed to quantitatively assess potential impacts are missing. What is needed is a relationship to correlate the distance of the structure from where mining is occurring, the magnitude of the induced seismic event, and the corresponding level of shaking on the ground (Personal Communication, December 1999).

Additional information was obtained from the Manti-La Sal National Forest (MLS) in Utah, where they are addressing a similar concern with regard to longwall mining near a Bureau of Reclamation dam. Results of this work have indicated the information needed to assess potential impacts include maximum credible (seismic) event for the specific area of concern, the geotechnical properties of the structure, and the origin of the seismic event. There is also the need to understand how the seismic energy is transmitted. An attempt was made to apply the McGarr equation, which was developed from research at mines in South Africa. But because the McGarr equation was developed in hard rock (i.e., non-sedimentary) geologic conditions, it did not yield credible results for the sedimentary strata present at the Utah location (which are the stratigraphic equivalents of the rock sequence in the project area). It was found that the McGarr equation would need to be modified

using location-specific monitoring information on geology, seismicity, etc. in order to yield usable results. (Personal Communication, January 2000).

The agencies recognize the potential effect to Terror Creek Reservoir dam, the importance of it's existing use, and public safety issues. Understanding that a quantitative methodology for assessing potential impacts does not exist, we have used the best available information. The agencies will identify potential mitigation and monitoring (*Appendix K, Subsidence Evaluation*, Section 8.4.1, Options in Regard to Mining in the Area of the Terror Creek Reservoir and *Table 3.5-5, Potential Mitigation and Monitoring Measures for Surface Water*). Please refer to the ROD for the mitigation and monitoring required.

35-43 The discussion on page 3-48 in the Draft EIS, refers to cracking that may occur on the fringes of a subsided area. These cracks are a result of tensile stresses that sometimes form on the land surface. Though cracks in sandstone bedrock may not heal during the life of the mine, or for many decades or even centuries, the cracks are not vertically continuous and do not extend any great vertical distance through the mine overburden. See *Figure F-4, Conceptual Representation of Subsidence Deformation Zones*, and *Figure K-2, Typical Longwall Subsidence Cross Sections*. This is because downwarping of rock strata occurs as multiple plates that reflect the lithology of the strata; tensile strain only occurs in less than half of each rock unit affected. For example, a crack would extend a vertical distance of less than half the thickness of a sandstone layer in the near-surface or continuous deformation zone (see *Appendix K, Subsidence Evaluation*, pages K-10 to K-13 for more details). There is minimal potential for groundwater diversion through these cracks; see also response to comment 18-7.
See response to comment 18-5.

35-43a

35-44 Subsidence potential is commonly related to the depth of overburden material overlying the coal seam to be mined. In developing *Figure 14, Subsidence Potential Map*, we started with *Figure 13, D Seam Overburden Isopach*. We identified areas with less than 500 feet of overburden to pose a "high to very high" potential for subsidence, 500 to 1,000 feet of overburden a "moderate to high" potential for subsidence, 1,000 to1,500 feet a "low to very low" potential for subsidence. See also response to comment 18-7.

We also recognized the fact there are landslide-prone and unstable slopes in this area as illustrated on *Figure 11, Geologic Hazards Map*. In an effort to be more conservative in our assessment of subsidence potential, we overlaid *Figure 11, Geologic Hazards Map*, on *Figure 13, D Seam Overburden Isopach*. When geologic hazards were found, we increased the subsidence potential to a higher level. For example, when we found a landslide area above the 500 to 1,000 foot of overburden area, we automatically assigned this area as a "high to very high" potential for subsidence. If we found an unstable slope above the 1,000 to 1,500 foot of overburden area, we shifted this area from a "low to moderate" to a "moderate to high" area of subsidence potential. By this approach, we added conservatism to our assessment. Please also see response to comment 18-1.

35-45 Gate roads and access ways of longwall mines are similar to room-and-pillar mines where caving and void filling could continue for decades. However, caving is limited to less than about ten times the coal extraction thickness. Also the safety factor of 1.88 is calculated for the pillars, where a factor of 1.3 is projected to be adequate. Pillar stability analysis will be required as part of the mine permit. Subsidence monitoring will be required during mining and after these workings are abandoned to verify the predictions of no subsidence

and to determine their stability under possible flooded conditions. Please also see responses to comments 18-7, 35-7, and 35-51.

35-46 This is addressed in responses to comments 25-5, 26-6, and 35-35. See also *Table 3.3-1, Potential Mitigation and Monitoring for Subsidence*.

35-47 This is addressed in responses to comments 18-4, 35-42, and 35-102. The agencies acknowledge this possibility. See *Appendix K, Subsidence Evaluation*, Section 8.4, Longwall Mining Beneath Terror Creek Reservoir.

35-48 This is addressed in responses to comments 18-1, 26-4, 26-5, 35-38, and 35-41.

35-49 This is addressed in responses to comments 18-1, 26-4, 26-5, 26-7, 35-38, and 35-44.

35-50 This is addressed in responses to comments 18-1, 26-4, 26-5, 26-7, 35-38, and 35-44.

35-51 The underground access ways to the Bowie No. 1 pod would be designed such that coal left in place would support the overlying strata. The actual design, factors of safety for support, etc., will be required in the mine permit and mine plan approval by the Colorado DMG, OSM and BLM. See also responses to comments 18-4, 26-6, and 35-45.

35-52 The BLM/Forest Service will implement standard coal lease stipulations, land use prescriptions, and special stipulations to protect water resources. If, as a result of mining activities, disruption to water quality or quantity occurs to any water resource (as determined by comparing inventory data to post-mining conditions), the lessee/operator would be responsible for rectifying the disruption. The Colorado DMG regulations require that all surface water and groundwater sources be monitored on a regular basis. Also, refer to responses to comments 18-7, 30-4, and 35-104.

35-53 The B seam is believed to be largely unsaturated (Draft EIS Section 3.6.3.5, Effects of Alternative C). It is unsaturated because it does not have an active recharge source. Recharge to existing ground water resources is a result of direct infiltration of precipitation and snowmelt. Given the variability of the local geologic strata (see Section 3.3.2.1, General Geology) and the limited storage potential of these units, there is little downward movement of groundwater, rather it "daylights" to the surface by flowing laterally to where the strata intersects local drainages (Draft EIS, page 3-84, and see also *Figure 20, Conceptual Hydrogeologic Cross Section A-A'*). Ground water that supports the local springs and seeps has short flow paths and surfaces close to where it was recharged. As discussed in response to comment 18-7, the groundwater and surface water resources in the Terror Creek drainage would be separated from continuous fracturing associated with subsidence by over 800 feet of overburden strata to the D seam. The B seam lies about 200 feet below the D seam (see *Figure 12, Typical Geologic Cross Section*). Further, the portion of the identified preferred alternative (see page S-5 of the Draft EIS) affords for the protection of Terror Creek from subsidence, thus eliminating the potential of intercepting water. Therefore, the chance that water from the surface will communicate with the B seam is low. See also responses to comments 18-7 and 35-52.

35-54 This is addressed in responses to comments 18-4, 35-42, 35-102.

35-55 The distinction can be made between natural and mining-induced effects on landslides, rockfalls, and unstable slopes mapped on the Geologic Hazards Map prior to any mining in the area, as is the case in most of the Elk Creek and Iron Point Lease tracts except in their southern parts (see *Figure 3, Historic Coal Mines and Federal Coal Lease*

Locations). Many existing landslides were mobilized, and new landslides occurred during the very wet period in the mid 1980s, which were remote from any mining activity. The important goal is to inventory these geologic hazards before mining to know what exists. This would be followed by surface monitoring during mining to determine if there is any relationship between subsidence, seismic events, and abnormal patterns of movements in the geologic hazard areas. See Section 3.3.5, Potential Subsidence Mitigation and Monitoring.

35-56 This is addressed in response to comment 35-45.

35-57 This is addressed in responses to comments 3-1, 3-2, 3-4, and 35-45.

35-58 This is addressed in responses to comments 18-1, 26-4, 26-5, and 35-38.

35-59 This is addressed in responses to comments 18-1, 26-4, 26-5, 26-6, 26-7, 35-38.

35-60 The socioeconomic analysis addresses only the effects of the No-Action and action alternatives as currently described in the Draft EIS document. Not explicitly addressed (but not excluded) are the possibility of other actions beyond the scope of the EIS as noted by Sections 3.14.4.1, Issuance of Only One Lease and 3.14.4.2, Production Limits. This potential is explicitly addressed as part of the expanded socioeconomic discussion with *Appendix L, Socioeconomic Report*, of the Final EIS (at Section 3.0, Socioeconomic Effects).

35-61 See response to comment 25-77.

35-62 See response to comment 25-77.

35-63 Projected loss of 383 direct jobs with Alternative A is not based on IMPLAN, but on current year employment of the Bowie and Oxbow mines as represented by these operators.

35-64 See response to comment 25-91.

35-65 From the empirical or statistical perspective, running a correlation matrix with just one other observation (1985) would be associated with a high margin of error. For a more complete discussion of issues associated with review of past closures, see response to 25-91.

35-66 See responses to comment 9-4 and 28-11. Also see response to comment 28-12.

35-67 The 631 BEA mine employment estimate in Section 2.4, Employment, of *Appendix L, Socioeconomic Report*, covers both Delta and Gunnison counties (secondary study area). The 548 IMPLAN job estimate in Section 3.1, Alternative Assumptions, of *Appendix L, Socioeconomic Report*, is also for Delta and Gunnison Counties (or the local study area). At the end of the introduction of Section 3.0, Socioeconomic Effects, of *Appendix L, Socioeconomic Report*, the EIS mentions that the direct and indirect effects are evaluated for both counties together. See responses to comments 25-77 and 28-1 for additional discussion on study areas.

35-68 The 123-job estimate is from BEA for Delta County only. See response to comment 35-67 for additional discussion.

35-69 Exclusion of reclamation employment with Alternative A is an oversight and pertinent information has been provided with Section 3.15.3.2, Socioeconomic Effects of Alternative A (No-Action) of the Final EIS and to Section 3.2.1, Employment and Income, of Appendix L, Socioeconomic Report. *Table 15, Mine Development Assumptions for Each Alternatives*, of *Appendix L, Socioeconomic Report*, is also corrected. The level of employment associated with reclamation with No-Action (Alternative A) is expected to be comparable to that of the Action Alternatives.

35-70 See response to comment 28-8.

35-71 Text on page L-29 (*Appendix L, Socioeconomic Report*), of the Draft EIS does not refer to a "schism" but discusses "evidence of growing difference in social values of newcomers versus long time residents". For further discussion of the basis for this analysis, see response to comment 25-87.

35-72 Statements referred to regarding the relationship between mines, ambulance service and EMTs are intended as factual characterizations of existing conditions. Discussion of the relationship of mines to these and other community service providers is useful as a basis to subsequently assess potential effects of the action and no action alternatives.

35-73 The EIS statement in Section 3.5.2, Fiscal Effects of Action Alternatives (B, C, and D) of *Appendix L, Socioeconomic Report*, that the entire Iron Point mine is located in Gunnison County is incorrect. This correction is made in the Final EIS. All economic and fiscal effects (primarily property taxes) associated with the Iron Point lease tract were allocated to Delta County. It should be noted that, at the end of page L-51, the Draft EIS states that 75 percent of the estimated property tax effects are allocated to Delta County taxing districts.

35-74 The discussion in Section 3.15.2.2, Housing, of the Draft EIS summary (page 3-199) draws from the observation that the slowdown in sales volume (i.e., the number of home sales), corresponds to the slowdown in net in-migration over the same time period. See *Figure L-2, Net Migration Trends (1981-1998)* and Section 2.1, Population and Demographics, of *Appendix L , Socioeconomic Report*, for a discussion on migration trends.

35-75 The effect that changing employment associated with project alternatives could have on population is of primary interest consistent with the scope of the this EIS. IMPLAN and other economic based modeling also are consistent with this approach.

As the commentor notes, the direction of causality can also move in the other direction; that is, population change also influences economic opportunity. This is the case for service and retail sector employment. It also may apply to so called "footloose" economic activities – where the owner chooses to bring a started company into a particular area for lifestyle reasons. This discussion is being added to Section 3.15.2.4, Employment and Economic Conditions, with the Final EIS and to Section 2.4, Employment, of *Appendix L, Socioeconomic Report*.

35-76 Job and income multipliers could be applied to recreational or other economic activities as well as mining. However, discussion of multipliers in this EIS is not applied to any of the Section 3.15.2, Existing Conditions, discussion of existing conditions, but is limited to the Section 3.15.3, Environmental Consequences, analysis of environmental consequences of the alternatives considered.

35-77 Comment noted.

35-78 The socioeconomic analysis includes only the coal reserves identified as being associated with each alternative, a result of the scoping process.

Section 3.2, Effects of the No-Action Alternative, of *Appendix L, Socioeconomic Report*, omitted the following paragraph:

> While each lease tract applicant has access to additional private reserves, these, too, would eventually be depleted. Under a continued No-Action Alternative, successful recovery of additional private reserves would extend mine life – but with eventual cessation of mine operations by the proponents. A decision to extract these additional private reserves has not been made, and probably will not occur, until reserves at existing mine operations are nearly depleted.

35-79 Section 3.1, Alternative Assumptions, of *Appendix L, Socioeconomic Report*, contains a discussion as to why the IMPLAN average wage ($59,500) was utilized in the estimation of economic and fiscal effects. Also, the $47,600 (source BEA) is the average wage for workers employed at Delta County mining establishments and $59,500 (Source IMPLAN) is the average wage for workers employed at both Delta and Gunnison County mining establishments.

35-80 The effects noted do not exclude the possibility of population growth in Delta and Gunnison Counties from other sources with no relationship to mining activity. The analysis in the EIS measures only the effects related to a specific change in the local economy (i.e., mining activity) based upon the project alternatives.

35-81 The relationship of declining population growth and declining housing sales volume is discussed in Section 3.15.2.2, Housing, of the Draft EIS. The section is being modified in the Final EIS to also note the relationship with declining housing sales prices. Similar elaboration is provided in Section 2.2, Housing, to *Appendix L, Socioeconomic Report*, of the Final EIS.

35-82 Comment noted.

35-83 Discussion of changing technology and productivity is discussed on pages L-7 and L-8 of *Appendix L, Socioeconomic Report*. This discussion is being amended in the Final EIS to more explicitly state that increased productivity is allowing mines to produce the same (or more) output but with fewer employees.

35-84 See responses to comments to 25-87 and 28-6.

35-85 The IMPLAN model takes account of corporate profits that may be transferred out of the study area. The income or wealth effect noted in the Draft EIS is attributable to mine worker incomes as well as procurement of supplies and services by the mines from study area businesses.

35-86 The construction industry in the study area includes a significant proportion of individuals employed in home building. This activity is typically associated with a lower average wage than commercial/industrial construction – due primarily to the greater need for hire of paid specialty subcontractors for commercial and industrial applications.

This is confirmed using more detailed construction sector data from IMPLAN for mining facility construction.

35-87 See response to comment 35-79.

35-88 Negative numbers indicate changes from current conditions with existing operating mines at Bowie and Oxbow. This clarification is being documented with the note attached with *Table 15, Mine Development Assumptions for Each Alternative*, to *Appendix L, Socioeconomic Report*, in the Final EIS.

35-89 This is an oversight and appropriate information is being included with the Final EIS and *Table 15, Mine Development Assumptions for Each Alternative*, of *Appendix L, Socioeconomic Report*, as per response to 35-69.

35-90 See response to comment 25-91.

35-91 The average wage of $18,200 is calculated as the result of the indirect employment and total income effects (income + employment). Also, this is an average for only those workers in economic sectors supported by coal mining activity.

35-92 See response to 25-91.

35-93 The $11.4 million fiscal effect for Alternative A is comprised of $5.7 million in federal royalties, $2.1 million in state severance tax, $2.4 million in sales tax, $1.1 million in state income tax, and $0.1 million in property tax.

35-94 See responses to comments 35-86 and 35-87.

35-95 See responses to comments 35-6 and 35-87. Text regarding reclamation employment with Alternative A is added to Section 3.3.1, Employment and Income, of *Appendix L, Socioeconomic Report*, of the Final EIS. *Table 15, Mine Development Assumptions for Each Alternative*, in *Appendix L, Socioeconomic Report*, is also corrected.

35-96 Extension of the lifetime of operation is also possible with Alternative A. This discussion is added to Section 3.2.5, Recreation, Social Values, Land Ownership and Values, of *Appendix L, Socioeconomic Report*, as clarification. *Table 15, Mine Development Assumptions for Each Alternative*, in *Appendix L, Socioeconomic Report*, and associated text related to employment effects have also been amended.

35-97 Comment noted.

35-98 See response to comment 35-73.

35-99 Regarding the comment about validation of economic modeling, see response to comment 25-91. A discussion on the impacts of small concentrations of dust on human health has been added to the Final EIS.

35-100 Comment noted.

35-100b Comment noted.

35-101 Comment noted. Water rights information stated in this comment agrees with data presented in *Table 3.5-3, Water Rights Summary*.

35-101b Comment noted.

35-102 Comment noted. The instability of the local terrain was acknowledged in the Draft EIS, See *Figure 11, Geologic Hazards Map.*

35-102b This comment is partly addressed in comments 18-4, 26-7, and 35-42 and 35-47. Additional comments follow:

The report by Arabasz and others (1997) is scientific and well documented. See *Appendix K, Subsidence Evaluation*, Section 3.6, Seismic Activity. It describes the key issues and seismological challenges faced in Utah when determining the relation among mining-induced seismicity, mining methods, overburden depth, and regional geology. Some key points they make, relating to the unique geologic setting, follow:

1. On Page 111, the report states in the Introduction that the WP-BC coal mining region is seismically unique, "The WP-BC (Wasatch Plateau-Book Cliffs) region is notable as one of two areas in the western U.S. (the other, the Coeur d'Alene metal mining district of north Idaho) where mining-induced seismicity is significant (Wong, 1993)—and also perhaps as the only area where mining-induced seismicity extends to depths of several kilometers below the mine level (see Gibowicz, 1990b, p. 13). Rockbursts and mining tremors of Richter local magnitude (ML) <4 have been instrumentally recorded in the WP-BC region since the 1960s (*Figure K-2, Typical Longwall Subsidence Cross Section*) accounting for about one-fourth of the seismic events annually recorded in the seismically active Utah region."

This statement is in agreement with the first and second paragraphs of Section 3.6, Seismic Activity, pages K-6 and K-7 of *Appendix K, Subsidence Evaluation*.

The statement also indicates that the area is unique geologically as far as coal mining areas are concerned. However, in the first half of September 1969, the USGS recorded twelve seismic events in the Somerset mine area that ranged from 1.8 to 2.7 on the Richter scale (Osterwald and others, 1972, 27 pages). The tremors were located between Bear Creek and Hubbard Creek at depths of 1,000 to 6,000 feet below active mine workings or recently abandoned mining areas. This is a small sample of seismic activity and depth relations. It may or may not prove valid with a more extensive study.

2. On page 111, in Key Issues and Seismological Challenges, these points summarized from various references, are that: 1) much of the seismicity appears to be mining-induced, resulting from stress redistribution from both room-and-pillar and longwall coal extraction, (2) abundant seismicity appears to occur beneath the mines to depths of 2 to 3 km (6,560 to 9,840 feet), (3) source mechanisms appear to be a combination of subsidence above and within mine workings and slip on prestressed faults. This statement also indicates that the WP-BC area may be geologically unique.

3. A seismic monitoring network would be useful to determine the background seismicity prior to mining and any changes in seismic patterns during mining in the Elk Creek and Iron Point Lease tracts to provide an accurate seismic record that could be beneficial to mining companies, regulatory agencies, and local residents.

Regarding the relation between Richter magnitude and Mercalli Intensity, the largest seismic event recorded by the USGS within 25 km of the Terror Creek Reservoir is 3.1 on 9-26-1994. This tremor was felt by West Elk Mine personnel at the mine office, as

indicated on the Mercalli Intensity of II. By comparison, the Rulison nuclear explosion, of Richter magnitude 5.2 and a Mercalli Intensity of VI, was felt by Dunrud (also see comment 35-42) as a very noticeable up and down motion that was followed by an even stronger horizontal back and forth motion. As described in 35-42 and in *Appendix K, Subsidence Evaluation*, Section 3.6, Seismic Activity, paragraph 6, no rocks fell or rolled and no landslides moved in an area surrounded by geologic hazards. Rocks ranging from a few hundred pounds to many tons perched on ledges and steep slopes were not disturbed.

The BLM and Forest Service recognize the importance of protecting surface structures and renewable resource lands (see response to comment 26-5). Thus, we prepared *Appendix K, Subsidence Evaluation*, to assist us in assessing subsidence, and we analyzed an alternative (Alternative D) in the EIS with designated subsidence protection zones (see *Figure 7, Alternative D*).

35-103 As described in Section 6.1, Subsidence Zones of *Appendix K, Subsidence Evaluation*, based on Peng (1992, pages 1-2), the following range of heights of caving and fracturing are given:

> **Height of caving** is controlled by lithology of the roof rocks and water content. The height of caving ranges from 2 to 8 times the coal extraction thickness for all rock types according to Peng (1992). Observations by Dunrud in many underground mines in the North Fork Valley, indicate that the height of the caved zone in this dynamic mining environment ranges from 3 to 5 times the coal extraction thickness (30 to 50 feet for a 10-foot extraction thickness) (Note: the height of caving in the static environment of abandoned gate road entries may be as much as 10 to 15 times the coal extraction thickness). See *Figure F-4, Conceptual Representation of Subsidence Deformation Zones* and *Figure K-2, Typical Longwall Subsidence Cross Section*.
>
> **Height of fracturing** also is controlled by lithologic type and thickness of roof rock. Based on measurements in drill holes, Peng (1992, pages 6-8) states that the height of the fractured zone ranges from nine to eleven times the coal extraction thickness (90 to 110 feet for a 10-foot extraction thickness) for overburden rocks composed primarily of ductile shales and claystones, and from twenty to thirty times the coal extraction thickness for rock consisting primarily of brittle sandstones and limestones. The height of fracturing for the Elk Creek and Iron Point Lease tracts is projected to range from ten to twenty times the coal extraction thickness (100 to 200 feet for a 10-foot extraction thickness), based on the shale, siltstone, and sandstone overburden lithology (see *Figure 12, Typical Geologic Cross Section*).

For comments on the angle of draw, see responses to comments 18-1, 26-7, and 35-38. The following response also is provided:

> Dip of the bedrock tends to decrease the angle of draw at the updip end of a coal extraction area and increase it on the downdip end. However, according to the National Coal Board (1975, p. 18), for a regional dip of 3.5 degrees, the angle of draw would decrease 4 to 5 degrees on the updip end of the extraction area and increase 4 to 5 degrees on the downdip end. These variances of 4 to 5 degrees in the angle of draw due to dip of bedrock are included in the range in angles of draw of 8 to 21 degrees for the Somerset room-and-pillar mine and of 9 to 18 degrees for the West Elk longwall mine.

See also response to comment 18-1.

35-104 The agencies are aware of the literature cited. However, the bulk of these studies were performed in eastern and mid-western U.S. coalfields where geologic and hydrologic conditions differ from those prevalent in the western U.S. and hence are not wholly applicable. Therefore, the analysis performed in this EIS was based on similar studies and experience pertinent to conditions in western coalfields (see Section 3.5.3.4,Effects of Alternative B). The effects analysis performed indicated a risk to the perennial drainages in Terror and Hubbard creeks due to subsidence (see Section 3.5.3.4, Effects of Alternative B and Section 3.5.3.5, Effects of Alternative C). Thus, the agencies selected the portion of Alternative D that affords protecting these drainages from subsidence (see Draft EIS, page S-5 and Section 3.5.3.5, Effects of Alternative C). See also *Table 3.3-5, Potential Mitigation and Monitoring for Surface Water*. The primary sources of water for the Terror Ditch and Reservoir Company water right is runoff and groundwater discharge to the upper Terror Creek and Iron Point Gulch drainage basins above the Terror Creek Reservoir, the West Fork of Terror Creek, and West Fork of Hubbard Creek north of the exploration boundary. The proposed mining would not affect these areas, due to the thick overburden cover (+2,500 feet). The only area of predicted impact to surface water flow is in lower Hubbard Creek, near the abandoned Blue Ribbon Mine. Surface water flow in this area has no relationship to the Terror Ditch and Reservoir Company water rights. Refer to Section 3.5.3.3, Effects Common to All Action Alternatives, page 3-77, and Section 3.6.3.3, Effects Common to All Action Alternatives, page 3-107, in the Draft EIS. There is no potential to increase trans-basinal flow out of the North Fork of the Gunnison River basin to areas north of Grand Mesa. There is only a small risk of decreasing this flow, due to dewatering of the D coal seam and subsequent discharge of mine water into the North Fork of the Gunnison River. See Section 3.6.3.3, Effects Common to All Action Alternatives, in the Final EIS.

35-105 Comment noted. See Section 8.4.1, Options in Regard to Mining in the Area of the Terror Creek Reservoir, set forth in *Appendix K, Subsidence Evaluation*.

35-106 The agencies are aware of the potential for mining-induced seismicity to affect the Terror Creek Reservoir facility. See *Table 3.3-5, Potential Mitigation and Monitoring Measures for Surface Water*, and Section 8.4.1, Options in Regard to Mining in the Area of the Terror Creek Reservoir, found in *Appendix K, Subsidence Evaluation*. Please refer to responses to comments 35-107 and 40-3.

The RODs will document agency decisions for required mitigation.

35-107 The BLM and Forest Service do not have the authority to require compensation for costs incurred. This sort of reimbursement would need to be negotiated with the lessee of the coal lease. See Also responses to comments 35-106, 36-4, and 40-3.

35-108 The West Hubbard Ditch and associated feeder ditches above Terror Creek Reservoir are outside the proposed Iron Point Coal Lease Tract and would not be subsided.

Alternative D was developed to provide subsidence protection to Terror and Hubbard creeks. See Section 2.6.2, Alternative D - Offer Iron Point Coal Lease Tract With Stipulation That There be No Subsidence in Sensitive Areas. See also *Table 3.3-1, Potential Mitigation and Monitoring Measures for Subsidence* and *Table 3.3-5, Potential Mitigation and Monitoring for Surface Water*.

35-109 Water resource monitoring is required under the terms of SMCRA and Colorado surface mining regulations, and will be included in the approved mine permit. The BLM and Forest Service have the opportunity to review and concur with monitoring locations

designated in the mine permit. Under law, water resources must be monitored during active mining, and after mining. Monitoring must continue until final reclamation is achieved, through the federal lease relinquishment process. Please also refer to Section 2.9, Reclamation Measures, and Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring.

35-110 Comment noted. Section 8.2, Mining Beneath Streams, in *Appendix K, Subsidence Evaluation*. See also response to comment 35-109.

35-111 Comment noted. See Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring. See also response to comment 35-109.

35-112 Please refer to responses to comments 18-11, 35-105, 35-106, 35-107, 35-108, 35-109, 35-110, and 35-111.

35-113 Please see response to comment 18-11.

36-1 The reader is referred to Section 3.14, Transportation, for a discussion of the issues raised.

36-2 Comment noted.

36-3 As explained in *Appendix B, Agency Jurisdictions (Permits and Approvals)*, the Mine Safety and Health Administration regulates the health and safety aspects of coal mining operations.

36-4 Bowie has offered commitments in a memorandum of Agreement between Bowie and Delta County to address some of the community issues. One of the commitments Bowie has offered is to reclaim the Bowie No. 1 west portal in the year 2000 construction season. Reclamation is required under existing permits for this facility. Bowie has not been released from obligations under the existing mine permit issued by the Colorado DMG and terms of the federal coal lease. Please also refer to responses to comments 11-1 through 11-9.

36-5 Comment noted.

37-1 See Sections 3.14, Transportation, and 3.15, Socioeconomics.

37-2 See response to comment 37-1.

37-3 Comment noted.

37-4 Comment noted. See discussion on "public safety" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives.

37-5 Comment noted.

37-6 Comment noted.

37-7 Comment noted.

37-8 See responses to comments 25-25, 25-26, 25-28, and 25-29.

37-9 Colorado state highways are designed for certain loads. It is illegal for truck traffic to exceed those limits. Any truck traffic, including coal haulage, must conform with the weight restrictions set by the state of Colorado for state highways.

Maintenance is not always directly related to traffic volume and traffic load (assuming such loads are within the load requirements of the state of Colorado). Natural geologic instability in the North Fork Valley presently creates maintenance challenges for the Colorado Department of Transportation.

We have also talked about maintenance under the subsection entitled "long-term maintenance" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives.

37-10 In the subsection entitled "Public Safety" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives, we addressed delays at train crossings, and the frustration that could occur as people are stopped more frequently for passing trains.

We have expanded the discussion in this subsection in the Final EIS to further illustrate potential traffic flow problems and delays that can occur at train crossings. To illustrate potential traffic flow interruption, we have added *Table 13.14-6, Vehicles Potentially Delayed at Rail Grade Crossing for Passing Trains*, in the Final EIS.

37-11 We have added discussion about the lack of shoulders in the subsection entitled "Public Safety" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives, in the Final EIS.

37-12 Because mines are currently in operation and no change in employment is expected with the action alternatives, no changes in housing demand or associated property values are expected from current conditions.

37-13 As discussed in Section 3.14.2.1, Major Transportation Route, State Highway 133 serves local residents and associated commercial traffic, including logging traffic. We have expanded our discussion in Section 1.9.12, Logging, to include potential logging activities in the region.

37-14 See responses to comments 9-3, 10-5, 11-4, 15-2, 25-14, 25-60, and 37-10.

We are unaware of the 40-minute delays mentioned for Grand Junction. We recognize that the main line of the Union Pacific passes through the southern portion of Grand Junction, but there are several overpasses/underpasses in this area to minimize traffic delays as a result of trains.

37-15 A discussion on the impacts of small concentrations of dust on human health has been added to the Final EIS.

37-16 The analysis of emissions from the Louisiana Pacific facilities near Olathe, Colorado, would not affect the air quality analysis completed for the coal activities in the North Fork Valley. We do acknowledge that there are emissions from home heating units, but quantification of such emissions are difficult to accurately assess.

37-17 The Final EIS includes a discussion on the presumed actual destination of air pollutants emitted by the mines and coal trains.

37-18 The Final EIS includes an expanded discussion on impacts to West Elk Wilderness.

37-19 Changes in the coal industry in Colorado and, more specifically, the primary/secondary study areas of Delta and Gunnison counties are discussed in Section 2.4, Employment, of *Appendix L, Socioeconomic Report*. Broader discussion of the viability of the coal industry is beyond the scope of a NEPA based EIS document.

37-20 Present conditions of the North Fork of the Gunnison River are given in Section 3.5.2.1, Regional Surface Water Hydrology. Effects to the river are expected to be minimal as discussed in Section 3.5.4, Cumulative Effects. See response to comment 30-4.

37-21 Comment noted.

37-22 The Final EIS includes additional discussion on the presumed wind direction in the vicinity of Bowie, Garvin Mesa, and Paonia. The Final EIS also re-evaluates of the impacts based on different wind directions near Bowie.

37-23 The Final EIS clarifies why methane gas emitted from the vent raises poses no risk to the surrounding community

37-24 Comment noted. We have reviewed this table and made appropriate revisions in the Final EIS.

37-25 Comment noted. The Final EIS uses PLUVUE to evaluate the emissions from the largest single emission source.

37-26 Comment noted.

37-27 Comment noted.

37-28 These issues are addressed in responses to comments 35-37 through 35-59 and 35-100 through 35-103.

37-29 Comment noted. In the Final EIS, we have reviewed tables and made appropriate revisions.

37-30 Comment noted. The nosie section has been rewritten for the Final EIS.

37-31 See response to comment 25-39 regarding the 100-foot railroad right-of-way. See response to comment 25-52 regarding the Colorado noise regulation as it relates to train noise.

37-32 The noise impact assessment for this EIS was unusually complex because it included several independent noise issues, each of which required the use of a separate criterion: the Colorado noise limit for stationary equipment; the FHWA criterion for haul trucks along public highways; and the FTA criterion for railroad noise.

37-33 See response to comment 25-37 regarding evaluation of individual pass-bys instead of the daily-average L-dn. The Final EIS will not quantitatively evaluate individual pass-bys or train whistles. However, the recommended mitigation measures in the Final EIS include supplemental surveys to identify how railroad crossings could be upgraded to reduce the number of times the trains must sound their whistles, and the recommended steps to evaluate how slowing the trains could reduce pass-by noise.

37-34 See response to comment 25-37 regarding use of L-max and SEL to evaluate train noise. Quantitative modeling of the L-max and SEL would not change the conclusions or recommendations of the Draft EIS, so no such modeling is included in the Final EIS.

37-35 EPA's original L-dn criterion of 55 dBA was published in 1974 and has since been superceded by other, more relevant, criteria. The commentor's interpretation of the Colorado noise limit is incorrect. See responses to comments 37-34 and 25-37 for a discussion of the L-max and SEL.

37-36 See response to comment 25-40 for a discussion on why "several week long noise measurements" are not warranted for this EIS.

37-37 As shown in *Table 3.12-11, Measured 30-Second Noise Levels Caused by Coal Trains*, the noise measurements showed that the train noise was related to train speed and train direction (uphill vs. downhill). The train noise did not depend on the time of day.

37-38 As stated in Section 3.12.3, Affected Environment (Background Noise Levels), the noise monitors were set for "slow" response". See response to comment 25-41 for a discussion of "fast" vs. "slow" meter settings.

37-39 See response to comment 25-40 for a discussion on the suitability of the limited noise measurements. The limited measurements showed a wide range of train noise based on the train speed and its direction (uphill vs. downhill). There is no reason to believe daytime train noise differs from nighttime train noise. Regardless, there was one set of nighttime train noise readings and one set of daytime train noise readings at Paonia. See response to comment 35-16.

37-40 Editorial corrections have been made for the Final EIS. None of the minor corrections identified by the commentors affect the results, conclusions, recommendations, or suggested mitigation measures described in the Draft EIS.

37-41 See response to comment 25-44.

37-42 Comment noted.

37-43 The tables in the EIS have been updated to list the L-max and delete the L-25 and L-50. The measured L-max relates to compliance with the Colorado limit, but is not relevant for evaluating the noise impact by the FTA assessment method. See response to comment 25-39 regarding the 100-foot railroad right-of-way.

37-44 See response to comment 25-46 regarding weather conditions on April 25, 1999.

37-45 See response to comment 25-47.

37-46 Editorial corrections have been made for the Final EIS. None of the minor corrections identified by the commentors affect the results, conclusions, recommendations, or suggested mitigation measures described in the Draft EIS.

37-47 Daytime and nighttime noise measurements were taken at four locations on Garvin Mesa during train loading at the Bowie No. 1 loadout. The loadout noise was clearly discernible at some outdoor locations at night and were above background levels, but the noise levels were not loud enough to disturb indoor activities. *Table 3.12-1, Measured Noise Levels at*

Rural Areas Near Paonia, has been updated to include all of the noise readings taken at Garvin Mesa.

37-48 See response to comment 25-50.

37-49 Only 1996 ADT data were available from the Colorado Department of Transportation at the time of EIS preparation. To account for potential ADT increases in 1998, 2000, and 2005, we assumed a 2 percent annual increase in traffic; see *Table 3.14-1, Annual Average Daily Traffic - State Highways 92 and 133.*

37-50 As alluded to in many of the above comment responses, we have re-written Section 3.12, Noise in the Final EIS to answer and clarify many of these questions. Also see *Appendix N, Noise*, in the final EIS.

37-51 For purposes of complying with Act (NEPA), the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.

37-52 Comment noted.

38-1 Comment noted. See Section 3.14.5, Potential Transportation Mitigation and Monitoring.

38-2 Socioeconomic consequences in an EIS (Section 3.15.3, Environmental Consequences) are intended to address only project alternatives – all are mine-related. The earlier discussion of existing conditions (Section 3.15.2, Existing Conditions) considers economic conditions of the primary and secondary study areas including non-mining related activity.

38-3 See responses to comments 25-68 and 30-4.

38-4 Comment noted. Refer to the response to comment 15-2.

38-5 Comment noted.

38-6 We do not expect coal related traffic to have any impact on ranching and agriculture in the valley. See Section 3.13.3.2, Effects Common to All Alternatives.

38-7 Comment noted.

38-8 See responses to comments 25-68 and 30-4; see also Section 3.5.5, Potential Surface Water Hydrology Mitigation and Monitoring.

38-9 See responses to comments 15-6, 25-68, and 35-104.

39-1 Comment noted.

39-2 Effects of action alternatives on employment and quality of life are addressed in Section 3.15.3.3, Socioeconomic Effects Common to All Action Alternatives, of the EIS.

39-3 See response to comment 30-4.

39-4 Comment noted.

39-6 See response to comment 25-14.

39-7 Section 3.14.5, Potential Transportation Mitigation and Monitoring, of the Final EIS describes how the noise associated with trains and whistles at night could be reduced.

39-8 Comment noted. Also see response to comment 32-6.

40-1 See response to comment 18-1.

40-2 Comment noted.

40-3 The agencies recognize that induced seismicity from subsidence poses a risk to the Terror Reservoir dam (Draft EIS, page 3-78 and *Appendix K, Subsidence Evaluation*, Section 3.6, Seismic Activity). See also response to comment 35-106.

41-1 Comment noted.

41-2 Comment noted.

41-3 See subsection entitled "Public Safety" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives.

41-4 See response to comment 15-2.

41-5 Comment noted.

42-1 Comment noted.

42-2 Comment noted.

42-3 Comment noted.

43-1 See response to comment 25-28.

43-2 See response to comment 30-4.

43-3 See response to comment 30-4.

43-3a See response to comment 37-10.

44-1 Comment noted.

44-2 Comment noted.

44-3 Existing water quality is discussed in Section 3.5.2.3, Project Area Surface Water Quality and shown on *Table 3.5-2, Selected Surface Water Quality Summary*. Effects to water quality are expected to be minimal as described in Section 3.5.4, Cumulative Effects. See response to comment 30-4.

44-4 Refer to responses to comments 10-5, 11-3, and 25-60.

44-5 Comment noted.

44-6 See response to comment 32-6.

44-7 We have improved the Final EIS in terms of discussion of impacts, including those that occur off-site. It becomes a matter of reasonable judgement in determining how much study to devote to issues suggested, in order to support informed decisions by the agencies in terms of the Decisions to be Made (please see this section of Chapter 1.0, Purpose and Need for Action, of the Final EIS). While this EIS can be a vehicle for the entire community to consider the effects of coal development because of the specific focus, may not address all of the problems associated with growth and community issues in the North Fork Valley. Please also see response to comment 29-11.

44-8 Comment noted.

44-9 Your comment involves questions which are outside the scope of this EIS. Most of the coal mined in the North Fork Valley is destined for coal fired power plants within the United States. Given the high BTU, low sulphur content of coal within the North Fork Valley, we suspect there will be a continuing demand for such coal in the U.S. electric generating business because of air quality restrictions imposed by the Clean Air Act. See Section 1.3, Purpose and Need, of the Final EIS.

44-10 Comment noted.

45-1 Comment noted.

45-2 Thank you for your comment.

45-3 Comment noted.

45-4 See response to comment 30-4.

45-5 Comment noted.

45-6 Any Y2K planning is outside the scope of this EIS.

46-1 See responses to comments 25-28, 35-105, and 35-110.

46-2 This comment is addressed in comments 18-1, 18-4, 26-4, 26-5, 26-6, 26-7, 35-38, and 35-102.

46-3 The Council of Environmental Quality has rescinded its requirement to look at worst-case scenarios in EIS analyses.

Your question alludes to the possible failure of the Terror Creek Reservoir and subsequent down drainage impacts. The Colorado State Engineer's Office has designated the Terror Creek Reservoir dam as a Class I facility (meaning that failure would endanger life and property; documentation of this classification is maintained in the administrative record). It should be noted that the Terror Creek Reservoir is outside any proposed lease tract boundaries. We disclosed the potential impacts of mining in the vicinity of Terror Creek Reservoir in Section 8.4, Longwall Mining Beneath Terror Creek Reservoir, in *Appendix K, Subsidence Evaluation*. The agencies are sensitive and concerned about public safety, and have identified potential mitigation and monitoring measures in *Table 3.3-1, Potential Mitigation and Monitoring Measures for Subsidence*. Refer to the RODs for specific mitigation and monitoring requirements.

46-4 See response to comment 18-1.

46-5 Additional mitigation measures have been added to the Final EIS. Please also see responses to comments 8-2 and 44-7.

46-6 See response to comment 15-2.

46-7 We have upgraded Section 3.14, Transportation, in the Final EIS.

46-8 This comment has been addressed and is included as a possible mitigation measure in the Section 3.14.5, Potential Transportation Mitigation and Monitoring, discussion of the EIS.

46-9 See response to comment 30-4.

46-10 See response to comment 25-28,

46-11 Comment noted.

47-1 Effects as described in the comment are discussed as part of the social values assessment in Section 3.15.3.3, Socioeconomic Effects Common to All Action Alternatives. Specifically identified in this discussion are issues related to noise and crossing blockage.

47-2 Comment noted.

47-3 Comments noted.

47-4 See response to comment 15-1.

47-5 The action alternatives are indicated as requiring no added employment above current levels with the existing mine operations. Because the action alternatives would involve maintenance of an existing (or in-place) local work force, the issues noted by the commentor are less than if a new mining operation were to be started requiring net added labor.

Because of these circumstances, work force transience becomes more an issue upon reduction or cessation of mining operations. This happens with both the no action and action alternatives – with the primary difference being the timing of mine operation curtailment.

47-6 Comment noted. Also see responses to comments 15-2, 25-60, and 25-65.

47-7 See responses to comments 10-5, 11-4, 25-60, and 25-65.

47-8 Comment noted.

47-9 Comment noted.

48-1 See responses to comments 25-28, 35-105, and 35-110 for discussion about Terror Creek Reservoir and associated facilities. See response to comment 30-4 regarding a water augmentation plan.

48-2 Comment noted. Also refer to response to comment 15-2.

48-3 The Final EIS addresses noise caused by trucks and trains, and recommends a series of mitigations to reduce the noise impacts.

48-4 Comment noted.

48-5 Comment noted.

48-6 Section 3.15.2.4, Employment and Economic Conditions, of the Draft EIS notes that the economy of the primary and secondary study areas has become more diverse as mining-related employment has declined. This trend toward a more diverse economy can be expected to continue with either the action or no-action alternatives. Other comments are noted.

48-7 Comment noted. Also see response to comment 15-1.

49-1 Comment noted. The Final EIS addresses noise caused by trucks and trains, and recommends a series of mitigations to reduce the noise impacts.

49-2 See responses to comments 25-68 and 30-4.

49-3 See response to comment 32-6.

50-1 Comment noted.

50-2 See response to comment 30-4.

50-3 Refer to subsection entitled "Pubiic Safety" in Section 3.14.3.2, Direct Effects Common to All Action Alternatives. Also refer to the response to comment 25-65.

50-4 Comment noted. See Section 1.3, Purpose and Need.

51-1 Comment noted.

51-2 See response to comment 25-25.

51-3 See response to comment 25-65.

51-4 Comment noted.

51-5 Regarding the comment about social values, see response to comment 25-87. Remainder of the comment is noted.

51-6 We have responded to comments received from the Western Slope Environmental Resource Council (WSERC), Brent Helleckson, and Sandra Higman. See responses to comments 25-1 through 25-117, 35-1 through 35-113, and 37-1 through 37-52.

51-7 See response to comment 15-1.

51-8 Comment noted.

51-9 The discussion on the nature of coal and coal reserves, as well as project life, is set forth in Chapter 2.0, Alternatives Including the Proposed Action, for the no-action and action alternatives.

We have also added discussion in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, and in Section 2.3, Alternative A: No-Action Alternative, to address the issues raised in your comment.

51-10 Comment noted.

51-11 You have misinterpreted our discussion in Section 3.14.4.1, Issuance of Only One Lease. Issuing only one lease does not guarantee that overall production in the North Fork Valley would be minimized. Mining companies could access other reserves in order to meet their permitted tonnages. See response to comment 15-6.

51-12 EISs commonly rely on limited baseline noise measurements to serve as input to their general noise assessments. See response to comment 24-40 regarding the purpose of the noise measurements and the value of future noise monitoring after completion of the Final EIS. The commentor's statement about a supposed bias from a "rainy day" is incorrect. See response to comment 25-46 for a discussion on why the weather did not affect the noise readings. There was no significant rain or wind during any of the noise measurements. The quiet baseline readings on 4/23/99 were taken during ideal weather conditions. The commentor's request for additional noise measurements lasting "a minimum of 30 to 60 days" at "as many of two dozen stations from Somerset to Delta" is not warranted for this EIS. As summarized in the Draft EIS in Section 3.12.4.3, Effects of Alternative B, the noise measurements taken for this EIS were adequate to demonstrate that trains and train whistles already cause severe noise impacts at homes near the tracks, and future increases in train traffic will exacerbate the problem. The "Mitigation" section of the Final EIS will be updated to recommend additional noise monitoring as a condition of the mining permit (after completion of the EIS), to provide additional information on the beneficial impacts of slowing the trains in populated areas, and to further define which railroad crossings might require upgrades to reduce the requirement for train whistles. If mitigation measures are taken to reduce the "severe impact" to homes near the tracks, then the noise levels at homes far from the tracks and at Garvin Mesa will also be reduced. Participation by the Concerned Citizens of Delta County (CCDC) would be very helpful.

51-13 We believe that a "comprehensive yet simple explanation of the science" is not necessary and is outside the scope of this EIS. We refer you to the affected environment sections set forth for each technical discipline in Chapter 3.0, Environmental Analysis. We have been diligent to identify terminology used in the EIS. Abbreviations can be found in Chapter 7.0, Glossary, of the EIS document. We would also refer you to the environmental consequences sections of Chapter 3.0, Environmental Analysis, for an understanding of the potential impacts of the leasing and exploration license.

51-14 Thank you for providing this information.

51-15 The cited 45 dB threshold that causes sleep deprivation is probably an INDOOR noise level at the person's bedside. The FTA and FHWA noise criteria used for this EIS are OUTDOOR noise levels at the property line of the residential dwelling.

51-16 Issues related to health care insurance, Medicare and Medicaid are discussed in *Appendix L, Socioeconomic Report*, of the EIS, Section 2.6.7, Hospital and Medical Services.

51-17 Comment noted.

51-18 See responses to comments 25-4, 25-6, 25-9, 25-10, and 25-108.

51-19 Please also refer to responses to comment 25-2, 25-7, and 56-7. The purpose of conducting coal exploration is to gather additional data and assess the conditions of the coal resource (Draft EIS page 1-5). Future lease applications may follow, however it is also a possibility that the data gathered during coal exploration will indicate that the coal resource is not conducive for development. The agencies have added some discussion in Section 1.9, Past, Present and Reasonably Foreseeable Cumulative Actions Considered in this Analysis, regarding other potential activity in the area.

51-20 Please refer to response to comments 25-2, 25-7 and 25-8.

51-21 We disagree. Transportation was considered as an issue as part of the scoping process and was addressed in Section 3.14, Transportation, in the EIS.

51-22 See response to comment 25-103.

51-23 See response to comment 25-103.

51-24 See responses to comments 25-9, 25-26, 25-74, 25-76, 25-87, and 25-91.

52-1 The preferred alternative identified in the Draft EIS (page S-5) includes the provisions that mining subsidence would not occur under the Terror Creek drainage.

52-2 We acknowledge the possibility of future ventilation and exhaust shafts. See "Area for Additional Surface Facilities," in Section 2.4.2, Alternative B - Offer Iron point Coal Lease Tract as Applied for by Applicant, and Section 2.4.3, Alternative B - Offer Elk Creek Coal Lease Tract as Applied for by Applicant.

52-3 See response to comment 25-28.

52-4 Comment noted.

52-5 See response to comment 52-2.

52-6 See response to comment 25-7.

53-1 See responses to comments 25-68 and 30-4.

53-2 Comment noted.

53-3 Comment noted.

53-4 For the most part, the existing infrastructure will be used for coal extraction from the Iron Point and Elk Creek Coal Lease tracts. If Bowie is successful in obtaining the Iron Point Coal Lease Tract, there is the likelihood that a new train loadout facility will be constructed to replace the existing Bowie No. 1 Loadout. This infrastructure development would merely replace an existing facility and would contribute to a decrease in the amount of truck haulage on State Highway 133. See response to comment 11-7h.

53-5 Comment noted.

53-6 Comment noted.

53-7 Comment noted.

54-1 Comment noted.

54-2 Comment noted.

54-3 Comment noted. Also see response to comment 15-1 and 15-6.

54-4 See response to comment 30-4.

54-5 Comment noted.

54-6 See response to comment 15-1.

55-1 Comment noted.

55-2 See response to comment 34-2.

55-3 The speed of the train is set by the Union Pacific Railroad based on a number of factors including the condition of the track, the location of the crossing, and the orientation of the track.

55-4 See response to comment 34-2.

56-1 Comment noted.

56-2 The preferred alternative identified in the Draft EIS is a combination of Alternatives B and D. What this means essentially is that leasing the tracts would occur as based on the boundaries described for Alternative B, however Hubbard and Terror creeks would be protected from subsidence as per Alternative D. The drainages and water sources will be protected (see Draft EIS page S-5). The Terror Reservoir is outside the Iron Point Coal Lease Tract boundary (see *Figure 5, Alternative B*) and outside the angle of draw area of influence (see *Figure 14, Subsidence Potential Map*).

56-3 Comment noted.

56-4 See response to comment 52-2.

56-5 See Section 8.0, Impacts of Subsidence on Structurally Sensitive Areas, in *Appendix K, Subsidence Evaluation*. See also responses to comments 18-4, 35-51, and 36-6.

56-6 Comment noted.

56-7 Under their revised plan for exploration, Bowie has indicated plans for 24 drill holes. This represents a maximum number of drill holes. It may be that once data from the drill holes is collected, some holes may not be needed. Based on the diagram in *Figure 4, Iron Point Exploration Plan*, no holes would be accessed from Garvin Mesa

56-8 Comment noted.

57-1 The boom/bust pattern of coal production is a result of the coal market and not related to the issuance of federal leases in the North Fork Valley. Also see response to comment 47-4.

57-2 Comment noted.

57-3 Discussion of quality of life effects is provided for the action alternatives at Section 3.15.3.3, Socioeconomic Effects Common to All Action Alternatives. The EIS indicates that this diminution in the quality of life could affect residents whose economic livelihood is not related in any substantive way to mining. This statement likely applies to many retirees. Discussion of effects on community public service providers also is provided in Section 3.15.3.3, Socioeconomic Effects Common to All Action Alternatives. See also Section 3.14, Transportation.

57-4 See responses to comment 25-68 and 30-4.

57-5 Comment noted.

58-1 Comment noted.

59-1 Comment noted.

59-2 See response to comment 9-3.

59-3 No documentation of measured 80 dBA noise levels on Garvin Mesa has been provided to the EIS ID Team. Measurements of traffic noise and train loading noise at Garvin Mesa showed low noise levels. The Final EIS has been updated to compare the measured noise levels at Garvin Mesa to relevant noise limits from other states. The EIS also reinforces that noise mitigations to reduce the severe noise impact at homes along the railroad tracks would reduce noise impacts at Garvin Mesa.

59-4 This is addressed in responses to comments 18-1, 26-4, 26-5, 26-6, 26-7, and 35-38.

59-5 Comment noted.

59-6 Comment noted.

59-7 Comment noted.

59-8 Comment noted. The agencies recognize and encourage the work being accomplished by the NFCWG. Please also see responses to comments 11-6 through 11-9 and 25-7.

60-1 Comment noted.

60-2 Comment noted.

61-1 Comment noted.

61-2 Comment noted.

61-3 We have carefully reviewed all of the input received on the Draft EIS and made appropriate changes in the Final EIS. We have attached appendices with the EIS documents as a means of reviewing additional information or as reference material for document text. It is not possible to include all of the information from the appendices within the text.

61-4 Placing the detailed economic evaluation in an appendix of the EIS does not give it less importance, as suggested in the comment. The economic analysis performed in the EIS was lengthy and intensive, therefore to aid the general readers, a condensed version was included in the body of the document, with the expanded, more technical information available in the appendix for any interested individuals.

61-5 See response to comment 35-76. Discussion related to tourism also applies to other non-mine segments of the economy that are beyond the scope of the EIS, including timber sales.

61-6 See response to comment 9-3.

61-7 Please refer to response to comment 61-4.

62-1 The agencies are bound under the tenets of NEPA to disclose potential impacts, including adverse impacts, to the public in the environmental document. The EIS presents impact analyses in Chapter 3.0, Environmental Analysis. Preparation of this EIS followed the procedures of NEPA for public involvement. Public discussion and input was sought through scoping, informational meetings, public hearings and comments on the Draft EIS (EIS, Section 1.7, Public and Agency Participation and Involvement, and project record).

62-2 Comment noted.

62-3 Comment noted.

62-4 See responses to comments 11-7l, 25-68, and 30-4.

62-5 Comment noted. See response to comment 15-2.

62-6 Comment noted. Also see response to comment 25-60.

62-7 See responses to comments 10-5, 11-4, 25-14, 25-60, 25-65, and 37-10.

62-8 See response to comment 32-6.

62-9 We have carefully considered all input received on the Draft EIS and made appropriate changes in the Final EIS. Decisions made by both the Forest Service and the BLM on the leasing and the exploration license are subject to appeal pursuant to the discussion set forth in the letter of transmittal for the Final EIS. Also, please note that we have considered off-site impacts in terms of "cumulative impacts."

62-10 The BLM and Forest Service recognize and encourage the efforts of the NFCWG in addressing the community-based, off site impacts of concern to the local community. See responses to comments 8-2, 11-6 through 11-8, 25-7, 36-4, and 40-3.

63-1 Comment noted.

63-2 The Final EIS has been updated to include additional discussion on the presumed wind direction in the vicinity of Bowie, Garvin Mesa, and Paonia. The Final EIS also includes re-evaluation of the impacts based on different wind directions near Bowie.

63-3 We have included a new Section 3.16, Light and Glare, in the Final EIS.

63-4 See response to comment 25-65.

63-5 With the No-Action Alternative as described in Section 3.15.3.2, Socioeconomic Effects of Alternative A (No-Action), the effects of job loss and any relocation from the area would not occur until cessation of current mining operations. This is consistent with discussion of traffic impacts at Section 3.14.3.5, Effects of Alternative A (No-Action), indicating mining operations would be of shorter duration thus causing any transportation-related impacts to occur over a shorter time period (with the no action alternative).

63-6 Discussion of the potential future impact of ongoing population growth – independent of mine operations – is beyond the scope of this EIS. See response to comment 35-76. Remainder of the comment is noted.

63-7 This is addressed in responses comments 18-1, 26-4, 26-5, 26-6, 26-7, 35-38, and 35-104.

63-8 See responses to comments 18-1, 35-38, and 35-41.

63-9 See response to comment 26-7.

63-10 Comment noted.

64-1 Comment noted.

64-2 Comments noted.

65-1 Comment noted.

65-2 Comment noted.

65-3 Comment noted.

65-4 Comment noted.

65-5 We applaud the work of the Coal Working Group with regard to railroad crossings. We have obtained additional information on railroad crossings through inventory work completed in December of 1999. We have also provided the Coal Working Group with a system for ranking the railroad crossings and a schedule of costs associated with differing railroad crossing safety improvements. Further, we have expanded our discussion in Section 3.14, Transportation, to account for comments received on rail transportation and specifically railroad crossings. See also response to comment 11-9.

65-6 Please see responses to comments 8-2 and 11-1 through 11-8.

65-7 Comment noted.

65-8 Comment noted.

65-9 Comment noted.

65-10 Comment noted.

66-1 Comment noted.

66-2 Comment noted.

66-3 Please refer to response to comment 23-2.

66-4 Comment noted. See response to comment 65-5.

67-1 Comment noted.

67-2 See response to comment 25-65.

67-3 See responses to comment 10-5, 11-4, 25-14, 25-60, 25-65, and 37-10.

67-4 Comment noted. See response to comment 65-5.

67-5 Comment noted.

68-1 Comment noted.

68-2 Comment noted.

68-3 See responses to comments 9-3, 10-5, 11-4, 25-14, 25-60, and 37-10.

68-4 Comment noted.

68-5 Comment noted.

5.0 COMMENT LETTERS/HEARING TRANSCRIPT

This section includes copies of all comment letters received on the Draft EIS, as well as the hearing transcript from the public hearing held on October 14, 1999. Comments are bracketed. For the response to comments, see Section 4.0, Comment Responses.

LETTER 1

UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

September 17, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, Colorado 81401

Dear Mr. Jones:

Enclosed are comments on the Draft Environmental Impact Statement for North Fork Coal Delta and Gunnison Counties, Colorado. We hope our comments can assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Margaret P. McCabe

for Susan B. Fruchter
Acting NEPA Coordinator

Enclosure

MEMORANDUM FOR: Susan B. Fruchter
Acting NEPA Coordinator

FROM: Charles W. Challstrom
Acting Director, National Geodetic Survey

SUBJECT: DEIS-9909-02 North Fork Coal Delta and Gunnison Counties, Colorado

The subject statement has been reviewed within the areas of the National Geodetic Survey's (NGS) responsibility and expertise and in terms of the impact of the proposed actions on NGS activities and projects.

1

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the NGS home page at the following Internet World Wide Web address: http://www.ngs.noaa.gov. After entering the NGS home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the NGS data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NGS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NGS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about these monuments, please contact Rick Yorczyk; SSMC3, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175.

In Reply Refer To:
Mail Stop 423

MEMORANDUM

To: Jerry Jones, Bureau of Land Management
Uncompahgre Field Office

From: James F. Devine */Signed/*
Senior Advisor for Science Applications

Subject: Review of the Draft Environmental Impact Statement – North Fork Coal, Delta and Gunnison Counties, Colorado

As requested in your correspondence dated September 3, 1999, the U.S. Geological Survey (USGS) has reviewed the subject draft Environmental Impact Statement (EIS) and offers the following observations and comments.

GENERAL COMMENTS:

More information is needed on the faulting in the area. The following questions need to be addressed:

1 (1) Is there faulting in the area and what is the affect of that faulting on the mining of coal?

2 (2) How will faulting affect the ground water flow?

3 (3) Will there be significant communication of water into the mine via faults?

4 Isopach maps of the coal beds or isopachs of the interburden between the coal beds need to be included in the Draft EIS. Fracture or cleat orientation maps are also needed.

SPECIFIC COMMENTS:

5

Page 3-14, Section 2.4.3, first paragraph; Alternative B – Offer Elk Creek Lease Tract as Applied for:

There is no reference to the in-place, total original coal resource. The only reference is to 21 million tons of recoverable coal. A section describing the methodology for calculating the recoverable coal should be included here.

6

Page 2-15, Section 2.5.2, second paragraph; Alternative C – Offer Iron Point Coal Lease Tract for Multi-Seam Mining:

There is no reference to the in-place, total original coal resource. The only reference is to 24 million tons of recoverable coal in the D seam and 19 million tons of recoverable coal in the B seam. How was the recoverable coal calculated?

7

Page 3-49, Section 3.3.2.1; General Geology:

Intrusions into and around the coal beds are not addressed. Dunrud's map of 1989 (see references below) shows an intrusion mapped in the SE quarter of section 27 (Iron Point lease). In addition to including the intrusions mapped in the SE quarter, geologic data for other intrusions, if any, in the NW area of the lease should be included in the DEIS.

8

Page 3-15, Section 3.3.2.3; Other Geologic Resources:

Coal bed methane (CBM) is not sufficiently addressed. With the present CBM "boom" in the US and the history of CBM in these beds, the resource should be more thoroughly addressed.

9

Appendix F:

Page F-7, Section 4.3, second paragraph; Prediction of Subsidence:

Important factors overlooked from the discussion of total subsidence are the rock types and individual bedding thicknesses in the overburden. These will directly effect the void-filling as caving moves toward the surface.

10

Page F-7, Section 4.3, third paragraph; Prediction of Subsidence:

10

In a previous section the average mining height was noted to be 10 feet. In this paragraph the example of 13.5 feet mining height was used and a 9.8 feet resulting subsidence was calculated. The subsidence factor for 10 feet of mining height should be calculated and included here.

11

Figures:

Figure 13. D-Seam Overburden Isopach:

It is unclear if the burn "limit" line was mapped underground and with drill holes, or if its location was "estimated." Figure 13 shows a burn limit of greater than 1000 feet of depth (Section 7, T13S, R90W). That limit significantly reduces the amount of recoverable coal from the potentially minable resource.

REFERENCES CITED:

12

These reports and the geologic map contain important geological, mining, and economic information that could be used in the DEIS.

Ekins and others. 1998. Availability of coal resources in Colorado - Somerset Quadrangle, west-central Colorado: Resource Series 36.

Schultz and others. 1999. Availability of coal resources in Colorado - Somerset Coal Field, west-central Colorado: Resource Series 38.

C. Richard Dunrud. 1989. Geologic map and coal stratigraphic framework of the Cederedge area, Delta County, Colorado: Map C-116.

Thank you for the opportunity to contribute to the draft EIS.

LETTER 3

Department of Energy
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

NOV 0 2 1999

Mr. Jerry Jones
EIS Coordinator
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, CO 81401

Re: Comments on the North Fork Coal Draft EIS

Dear Mr. Jones:

The Western Area Power Administration (Western), Rocky Mountain Region, is providing to you our comments (enclosed) on the North Fork Coal Draft EIS, dated September 3 1999. As noted in our May 10, 1999 correspondence, our right-of-way (ROW) records indicate that Western's Curecanti-Rifle 230/345-kV transmission line crosses a portion of the proposed coal lease area on the following public lands administered by the Bureau of Land Management and authorized under ROW Reservation COC-22713:

T. 13 S., R. 91 W., 6th P.M., Delta County, Colorado

Sec. 5: W1/2, SE1/4 and
Sec. 8: W1/2, NE1/4

The ROW is 125 feet in width and includes access roads. The transmission line structures are steel lattice with buried reinforced concrete bases.

Western requested participation in the review of the Environmental Impact Statement (EIS) and Mining Plan of Operations, as subsurface mining can have an extremely adverse impact on transmission line structure integrity. Locations of the access routes and the size and type of equipment would also be important from the stand point of safety and their potential impacts to the structures and electrical conductors. Further, Western has specific concerns with potential ground subsidence and the geologic stability of the area. Subsurface mining under Western's facilities and subsequent ground subsidence has the potential for structurally damaging Western's access roads and transmission line structures. Historically, the Terror Creek drainage appears to be geologically unstable as numerous surface slips are evident throughout the area. Western is concerned that subsurface mining activities may further decrease the stability of the area resulting in damage to Western's improvements. We feel that all of these concerns must be

adequately addressed and appropriately mitigated through the environmental process. Some of these items are concerns whether or not the proposed coal leases extend under Western's ROW.

If you have any questions on our review comments, please telephone Rodney Jones at (970) 490-7371. Thank you for the opportunity to comment and participate in this project.

Sincerely,

Joel K. Bladow
Regional Manager

Enclosure

Western Area Power Administration
Rocky Mountain Region

Comments on the North Fork Coal Draft EIS
November 2, 1999

Specific comments:

S-2.2 Alternative B - Proposed Action

1 "There would be no subsidence under the Curecanti –Rifle 230/345 kV electric transmission line …. "

Does this mean there would be no subsurface mining activities beneath the transmission line's 125-foot right-of-way?

S-2.4 Alternative D – Subsidence Protection

2 " … there would be no subsidence under Terror or Hubbard creeks, or the Curecanti-Rifle 230/345 kV electric transmission line."

Does this mean there would be no subsurface mining activities beneath the transmission line's 125-foot right-of-way?

S-2.5 Preferred Alternative

3 The preferred alternative is described as a combination of Alternatives B and D. "Provisions in Alternative D offer protection for perennial drainages by eliminating subsidence in those areas."

Does the Preferred Alternative also include eliminating subsidence within the Curecanti-Rifle transmission line right-of-way? Does this mean there would be no subsurface mining activities beneath the transmission line's 125-foot right-of-way?

S-3.2 Topography/Physiography

4 "Subsidence from longwall mining could aggravate the movement of existing landslides and rock falls in areas of moderate to high subsidence potential."

Figure 11 shows a geologic hazard (unstable slope) area immediately west and upslope of the Curecanti-Rifle transmission line. Are subsurface mining

4

activities planed beneath this hazard area? A landslide triggered by mining related subsidence could impact the Curecanti-Rifle transmission line.

5

2.4.2 Alternative B – Offer Iron Point Coal Lease Tract as Applied for by Applicant

".... mining would be restricted or limited under the Curecanti-Rifle 230/345kV transmission line."

What exactly does "restricted" or "limited" refer to? Would mining only take place within specific areas beneath the right-of-way?

6

2.5.2 Alternative C – Multi-seam Mining and Adjusted Coal Lease Boundaries

Same comment as 2.4.2

7

2.6.2 Alternative D –Offer Iron Point Coal Lease Tract with Stipulation that there be No Subsidence in Sensitive Areas.

"This action alternative would offer the Iron Point Coal Lease Tract for competitive leasing as proposed in Alternative C. The only difference would be the strict stipulation that there would be no subsidence under either Terror Creek or Hubbard Creek, nor any subsidence under the Curecanti-Rifle 230/345 kV electric transmission line."

Does "no subsidence" mean there would be no subsurface mining activities beneath the transmission line's 125-foot right-of-way?

8

2.8.4 Limit the Size of the Iron Point Coal Lease Tract to Avoid Coal beneath Terror Creek and Curecanti-Rifle 230/345kV Electric Transmission Line

This alternative would have adjusted the lease boundaries to eliminate areas from the lease under Terror Creek and the Curecanti-Rifle transmission line. The purpose of these restrictions was to prevent any subsidence from impacting the Terror Creek or the Curecanti-Rifle transmission line. This alternative was eliminated from detailed evaluation based upon mining access; reopening and rehabilitation of old access; expense, dangers and hazards associated with rehabilitating old access; new surface facilities; and transportation related dust, noise, and safety issues.

If the Curecanti-Rifle transmission line is affected by subsidence, there would be environmental impacts (and significant costs) associated with rebuilding or

rerouting the transmission line, construction of new access roads, and the removal of the damaged facilities. There is always the potential for fire and safety issues associated with damaged or downed transmission lines. Minimum costs for rebuilding/rerouting the line could average $500,000 or more per mile.

In addition to the costs of replacing or rebuilding the damaged portion of the line, there would be loss of revenues until the line could be placed back into service. The 230-kV Curecanti-Rifle transmission line is a critical element of the CRSP transmission system and TOT 5 in Western Colorado. The path is fully utilized for the contractual delivery of long-term SLCA Integrated Projects firm power. The current transfer capability of the 230-kV Curecanti-Rifle transmission line is approximately 250 MW. The current Salt Lake City Area Integrated Projects Firm Power Rate (SLIP-F6) is 17.57 mills per kW-hr (or $17.57 per MW-hr). With an unforced (unplanned) outage or interruption in the availability of this transmission path, Western would be required to maintain delivery of firm electric service through alternative transmission paths. At a minimum, the associated expense of an interruption in service to the SLCA Integrated Projects firm power customers could be approximately $4,392 (250 MW times $17.57 per MW-hr) per hour of interruption (or, $105,408 per day). However, Western could incur substantially greater expenses in arranging for alternative firm transmission to serve this load during a system emergency. This expense would vary greatly depending upon many factors, including the period (time-of-day/week/month/year), the duration, and system and market conditions at the time of interruption.

8

Were these transmission line impacts (and associated expenses) considered in the elimination of this alternative from detailed evaluation?

3.2.3.6 Effects of Alternative D

"The impacts of Alternative D would be similar to those of Alternative C, except extra precautions (barrier pillars, buffer zones, etc) would be taken to prevent any subsidence in the Terror Creek and Hubbard Creek drainages, and beneath the Curecanti-Rifle 230/345 kV transmission line which is located in the Terror Creek drainage."

9

Are these "extra precautions" incorporated into the Preferred Alternative?

3.13.2.4 Utilities

"The electric transmission line would be protected from mining impacts as stated in Criterion 2 in *Appendix C, Unsuitability Analysis Report – Iron Point Coal Lease Tract.*"

In Criterion 2, Appendix C, it states: "Federal Lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other pubic purposes, on federally-owned surface shall be considered unsuitable."

10

Under "Exceptions" it states that "A lease may be issued and mining operations approved, in such areas if the surface management agency determines that: (v) it is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations."

Under "Analysis" it states that "the powerline will be protected by exception (v).

State-of-the-art mining techniques shall be used to control subsidence.

If the mining techniques fail, and the transmission line is impacted by subsidence, is the lessee or the land managing agency liable for damages to the transmission line and the loss of revenues?

///

LETTER 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466
http://www.epa.gov/region08

NOV - 2 1999

Ref: 8EPR-EP

VIA FACSIMILE AND MAIL

Jerry Jones, Team Coordinator
Uncompahgre Field Office
Bureau of Land Management
2465 South Townsend Avenue
Montrose, CO 81401

RE: North Fork Coal DEIS
CEQ # 990307

Dear Mr. Jones:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), Region 8 of the U. S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (DEIS) for the North Fork Coal Lease in Delta and Gunnison Counties, Colorado. EPA has prepared comments that should be addressed in the final Environmental Impact Statement (FEIS).

This DEIS analyzes the potential environmental impact of three pending federal actions: 1) Offer the Iron Point Coal Lease Tract for competitive bid (COC-61209), approximately 3,403 acres of federal coal; 2) Offer the Elk Creek Coal Lease Tract for competitive bid (COC-61357), approximately 3,703 acres of federal coal; 3) Issue a coal exploration license on approximately 6,053 acres adjacent to the Iron Point Tract (COC-61945). The land involved in this proposed action includes BLM administered lands in the Uncompahgre basin Resource Area and National Forest Systems lands administered by the Grand Mesa-Uncompahgre-Gunnison National Forest (GMUG). These lands are north of Colorado State Highway 133, between the communities of Paonia and Somerset, CO. There is ongoing coal mining and exploration in the area as mapped in *Figure 3, Historic Coal Mines and Federal Coal Lease Locations.*

1 This DEIS provides a detailed potential impact analysis for the exploration, leasing , and future extraction of coal in this area. There is clear recognition of the multiple levels of Federal and State approvals and permitting

1

actions which will occur prior to the initiation of exploration and additional coal mining on the Iron Point and Elk Creek Tracts. A list of permits and approvals is contained in *Appendix B, Agency Jurisdictions, Permits and Approval.* It would be helpful to modify this list to indicate an action sequence of approvals and permitting at the various agencies and the organization level of that action. This modification would provide a clear picture of the number of steps involved prior to the initiation of coal extraction.

2

The BLM Coal Lease Stipulation specified in the *Unsuitability Analysis Report for the Iron Point and Elk Creek Coal Lease Tracts* (see restriction Pages C-12 and D-14) and the Forest Service Stipulation for coal leasing (see Appendix I and J, *Forest Service Stipulation for Iron Point and Elk Creek*, respectively), seem to offer adequate environmental protection for most potentially impacted elements. It is EPA's understanding, as noted on page 2-1, that both the BLM Lease Stipulations and the Forest Service Stipulation will be incorporated into the standard BLM Lease under the Special Stipulations section as published in Appendix H. Furthermore, it is EPA's understanding that compliance with these lease stipulations would be confirmed through the actual mine plan review and permitting process conducted by the Office of Surface Mining and the Colorado Department of Minerals and Geology with oversight from the Bureau of Land Management and the Forest Service (GMUG).

3

We are concerned about the usefulness of listing possible mitigation and monitoring activities without clear means for implementation of these activities for potentially affected surface water, ground water, wetlands, noise and transportation. As discussed in the DEIS, mitigation measures for surface water, ground water, and wetlands (Pages 3-80, 3-110, 3-126, respectively) are expected to be fully defined and committed as part of the final permitting process. The mitigation measures for noise and transportation concerns are briefly discussed as measures that could be used to reduce the potential adverse impacts to the human environment from increased coal production and transportation (see Pages 3-178 and 3-197, respectively). This approach is inadequate and inconsistent with the requirement under the NEPA regulations at 40 CFR 1502.14 (f) and 1502.16 (h). These provisions require the identification of mitigation measures and the means to implement them. In the case of potential impacts to surface water, ground water, and wetlands, by waiting until the permitting process to identify relevant and appropriate mitigation to offset adverse impacts, the public will be limited in its opportunity to review, comment, and potentially influence the measures selected. In the case of noise and transportation, the DEIS fails to establish the means to implement any of the mitigation measures listed on pages 3-178 and 3-179 (noise) and pages 3-197and 3-198 (transportation).

4

It appears that there are two key concerns in this DEIS that have not been adequately addressed. The first is the control of noise as a pollutant that will adversely affect the human environment. The second is the control of transportation of coal as a generator of noise pollution and as a risk factor to human health due to railroad-community interaction. As discussed in the Council on Environmental Quality Memorandum concerning the "Forty Most Asked Questions" on the regulations published in 1981(Federal Register, 46 FR 18026), the DEIS is considered as the most comprehensive environmental document to be published on a project and should contain an identification of all relevant and reasonable mitigation measures that could be used to off-set adverse impacts, even if they are outside the jurisdiction of the lead or cooperating agencies. In addition, the DEIS should assess the probability of implementing the relevant, reasonable and appropriate mitigation measures. What is the likelihood that noise and transportation mitigation measures will be adopted and enforced by responsible agencies?

5

The Colorado Revised Statues § 25-12-101 establishes that noise is "...a major source of environmental pollution which represents a threat to the serenity and quality of life in the state of Colorado". This section goes on to establish that "(n)oise in excess of the limits provided in this article constitutes a public nuisance". While the DEIS does reference the Colorado Revised Statutes, it does not use the limits established in the Statutes to conduct the analysis of noise generated by increased coal production and transportation. The DEIS fails to recognize that the noise pollution, as generated by production and transportation, constitutes a public nuisance and that the County Commissioners have the authority to enact ordinances which could control or mitigate this source of pollution.

6

Based on procedures EPA uses to evaluate the DEIS and the potential environmental impact of this coal lease project, the DEIS will be listed in the Federal Register as **EC-2** (Environmental Concerns, Insufficient Information). This rating indicates that EPA has identified areas of potential impacts that should be avoided to fully protect the environment and that there is insufficient information to fully assess the likelihood of implementing mitigation measures.

Attached is a more detailed summary of EPA's concerns. Thank you for the opportunity to review and comment on this DEIS. If you have any questions about our comments on this DEIS, please call Wes Wilson at (303) 312-6562.

Sincerely,

Cynthia Cody

Cynthia Cody, Chief
NEPA Unit
Ecosystem Protection Program

Enclosure

SUMMARY OF COMMENTS
EPA, REGION 8
NORTH FORK COAL DEIS

Purpose: The purpose of this Summary of Comments is to provide additional EPA concerns not specifically stated in the cover letter.

7

1. **Surface Water and Ground Water.** A Cumulative Hydrologic Impact Evaluation needs to be performed as part of the Surface Mining Control and Reclamation permitting process. This evaluation is fully defined under (SMCRA) permitting requirements and is necessary because of the extensive nature of existing coal mines and the future impacts from planned expansions.

8

2. **Wetlands.** EPA is concerned that there has been no formal delineation of wetlands or other waters of the U. S. as part of this DEIS. The NEPA regulations at 40 CFR 1500.2 (c) state that the requirements of NEPA should be integrated with the "...other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively". We note that the mitigation and monitoring section for wetlands on page 3-126 calls for the completion of delineation of wetlands according to the Corps of Engineers guidelines into the formal mine permitting process. However, this may result in additional costs and delays, since the wetlands delineations in usually complete as part of the NEPA process.

3. **Air Quality.**

9

- Page 3-13, Emissions from Mines, Trains, and Vehicles. EPA suggests that the tables supporting this section be footnoted to state that the projected emission rates are based on the assumption that the vehicles are maintained according to manufacturer's specifications. This qualifier should be incorporated into the Record of Decision as a mitigation measure since neither the BLM nor the USDA-FS have any jurisdiction over vehicle maintenance.

10

- Page 3-16, Table 3.1-9. We recommend that the word "Impact" be

10

changed to "Sources". Please explain what other cumulative sources are included in this analysis.

11

- Section 3.14.4.4, New Rail Loadout Adjacent to Bowie No. 2 Mine. The transportation of coal has a direct effect on the human environment. Even though the BLM and the USDA-FS do not have jurisdiction over the transportation of coal, these agencies do have a responsibility to analyze the environmental impacts resulting from transportation. Moving the rail loadout facility from the Bowie No. 1 mine to the Bowie No. 2 mine would have many positive effects, including the reduction of air pollution. What quantity of air pollutants would be reduced by using rail transport over the life of the mine? What is the cost of physically moving the loadout facility and what saving would be obtained by using rail versus truck? After fully evaluating the transportation options, we suggest that the Record of Decision (ROD) recommend the appropriate mode of transportation regardless of agency jurisdiction.

12

LETTER 5

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

November 3, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, Colorado 81401

Dear Mr. Jones

We have completed our review of the Draft Environmental Impact Statement (DEIS) for North Fork Coal, Delta and Gunnison Counties, Colorado. We are responding on behalf of the U.S. Public Health Service, Department of Health and Human Services.

1 Generally, we believe this DEIS is well written and addresses most of our potential concerns. However, we do offer two comments. Although impacts are discussed regarding various natural

2 resources, our review did not reveal a discussion specifically regarding potential toxic and hazardous wastes/materials impacts to soil, ground and surface water, from potential spills from equipment and mining operations. Spill prevention and emergency contingency plans should be addressed or referenced in the FEIS.

3 Because it is stated that a major aquifer exists along the North Fork of the Gunnison River that supplies a municipal water supply, it is necessary that appropriate mitigation plans to prevent contamination and monitoring plans to help ensure the continued protection of drinking water resources be appropriately planned for this proposed project.

Thank you for the opportunity to review and comment on this draft document. Please send us a copy of the Final EIS, and any future environmental impact statements which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA).

Sincerely,

Kenneth W. Holt

Kenneth W. Holt, MSEH
Chemical Demilitarization Branch (F16)
Emergency & Environmental Health Services Division
National Center for Environmental Health

LETTER 6

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

4201 East Arkansas Avenue
Denver, Colorado 80222
(303) 757-9011

October 27, 1999

Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 So. Townsend Avenue
Montrose, Colorado 81401

Dear Mr. Jones:

The Colorado Department of Transportation (CDOT) has reviewed the Draft Environmental Impact Statement for the North Fork Coal project and has the following comments.

1 The discussion of effects to SH 133 on page 3-189 translates the average daily traffic to average hourly traffic which is not meaningful since it understates the traffic volume during the time of day when most travel occurs. A more appropriate measure is peak hour or design hour volume, which is a measure of traffic volume during the busiest time of day. This would give a more accurate picture of the impacts to SH 133.

2 In this same discussion, the average hourly truck traffic figures assume 24 hour around the clock hauling. Will this be the case, or will more truck traffic occur during the daytime hours? This needs to be clarified.

3 Regarding the discussion of other transportation options on pages 3-195 and 3-196 - has a financial analysis been done for these various transportation options? Reference is made to Appendix E, Mining Economics, however no cost figures are presented. It would seem that the coal companies would have done this type of analysis to determine which is the most cost-effective method of transporting the coal from the mine to the loadout.

Thank you for the opportunity to provide comments on this document.

Very truly yours,

Robin E. Geddy

Robin E. Geddy
Intergovernmental Review Coordinator
Office of Environmental Services

REG/hs

cc: Larry Abbott, Region 3

LETTER 7

STATE OF COLORADO

Bill Owens, Governor
Jane E. Norton, Executive Director
Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
Located in Glendale, Colorado

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver CO 80230-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department of Public Health and Environment

November 3, 1999

Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Ave.
Montrose, CO 81401

Re: The Air Pollution Control Division's (Division) comments regarding the Draft Environmental Impact Statement for North Fork Coal, September 1999 (Draft EIS).

Dear Mr. Jones:

The purpose of this letter is to provide the U.S.D.I. Bureau of Land Management, Uncompahgre Field Office (BLM) and the U.S.D.A. Forest Service, Grand Mesa, Uncompahgre and Gunnison National Forests (Forest Service) the Division's comments regarding the September 1999 Draft Environmental Impact Statement for North Fork Coal. The Division appreciates the opportunity to review and provide comment on the air quality component of this environmental assessment. See attached memo from Chuck Machovec, November 2, 1999 for specific comments.

1 On October 14, 1999 Division staff met with Forest Service and BLM staff. Specific comments and recommendations for air quality assessment methods were provided. BLM staff agreed to prepare a summary of the decisions and send meeting attendees a copy for review and concurrence. The Division looks forward to a meeting summary that details the changes to be made in the environmental assessment. We will be glad to provide comments on the revised environmental assessment.

2 The September 1999 Draft EIS does not provide an adequate assessment of the visibility impacts of the proposed projects at the West Elks Wilderness Area. Several approaches to adequately assess visibility impacts at the Class I areas for this situation were discussed on October 14, 1999. The Division encourages the Forest Service to ensure that visibility impacts to the West Elk Wilderness Area are accurately assessed and mitigation of potential impacts is included in proposed alternatives.

Should there be any questions, please contact me at 303-692-3234 or Chuck Machovec at 303-692-3249.

Sincerely,

Coleen Campbell

Coleen Campbell
Air Pollution Control Specialist
Colorado Air Pollution Control Division

Enclosure
cc: Chuck Machovec, Dan Ely, Phyllis Woodford- APCD
Tamara Hiett, USFS
TSP wp 9.4.2.3.4

COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
TECHNICAL SERVICES PROGRAM

MEMORANDUM

To: Coleen Campbell, Phyllis Woodford

CC: Barbara MacRae —>TSP WP #4.2.3.7

From: Chuck Machovec (Modeling, Meteorology, and Emission Inventory Unit)

Date: November 3, 1999

Subject: North Fork Coal Draft EIS Comments – Air Quality Impacts (revised)

General Comments:

1. **Compliance with PM10 National Ambient Air Quality Standards (NAAQS).** The Draft EIS does not include air quality modeling that satisfactorily addresses air quality impacts in ambient air near the mining operations and haul roads. Fortunately, the Division has conducted or reviewed emissions/dispersion modeling for several coal mines in the North Fork area as part of Colorado's air quality permitting process. The throughputs in the EIS are similar to those for existing air quality permits. The following annual throughputs are included in existing air quality permits:
   - Oxbow - 4.8 million tons
   - Bowie #2 - 5.0 million tons (also separate modeling for Bowie #1 near Paonia)
   - Mountain Coal (West Elk)– 8.5 million tons

3 The permit-related impact analyses generally show modeled exceedances of the 24-hour PM10 NAAQS of 150 micrograms per cubic meter ($\mu g/m^3$) "on-site" in the process areas. Exceedances of standards are allowed on land owned or controlled by the source operator as long as public access is precluded to these areas. To accomplish this, most of the mines must have some combination of fencing, gating, posting, security patrols, and physical barriers in place that can effectively preclude public access into the areas with modeled exceedances. Thus, even though the Draft EIS does not adequately address near-source impacts, existing refined modeling for the mines with air quality permits suggests that the mining operations will not cause or contribute to violations of the PM10 NAAQS in "ambient air." Nevertheless, the existing refined air quality modeling relies on a marginally representative set of meteorological data. Thus, significant uncertainties exist with respect to actual air quality impacts in areas of public exposure near the mines and associated facilities such as loadout areas.

2. **Wind Erosion Events**

4 Wind erosion events in this part of Colorado can cause wide-spread exceedances of PM10 standards. Wind gusts in these areas have been powerful enough in the past to entrain large amounts of soil material into the air. In fact, 24-hour PM10 concentration levels over 400 $\mu g/m^3$ were recorded at PM10 monitors in Hotchkiss and Paonia in March 1999. Analysis by the Division suggests these exceedances of federal standards were natural events and not the result of anthropogenic activities. Nevertheless, such extreme events elevate concerns that disturbed surface areas may serve as source areas for wind erosion events. The existing air quality permits and Colorado regulations contain provisions to help limit problems associated with wind erosion. Nevertheless, wind erosion events are certainly capable of generating large dust plumes in this area. Such events like the one in March 1999

4

occurred during a period of regional drought or near-drought conditions. Appropriate watering and other mitigation measures should be followed to minimize wind erosion from haul roads and disturbed areas, including surface process areas.

3. **Monitoring Recommendations to Reduce Uncertainties with Respect to Near-field PM10 Impacts.**

The Division recommends that a PM10 monitor be located near Somerset or Bowie to ensure that federal PM10 standards are not being violated in areas of public exposure. The Division has PM10 monitor in the nearby population centers of Hotchkiss and Paonia, but there are no PM10 monitors near Bowie or Somerset. The additional PM10 monitor would help the Division and others better understand the actual air quality impacts of coal mining in these rural areas of Colorado. It is important to note the Division's PM10 monitors are not located close to the coal mines. Thus, they may not provide a good indicator of public PM10 exposure in Bowie and Somerset.

5

In addition, it's recommended that a PSD-quality meteorological tower (e.g., a 10 meter tower) be located near the PM10 monitor. Ideally, more than one meteorological tower would be sited in the valley. For example, one could be located in Paonia where the Division has a PM10 monitor and one could be located near the PM10 monitor further up-valley. This would provide a much better understanding of air quality impacts. It would also provide data to support permitting work in the future and to better address complaints from the public about "dust" in the valley near loadout areas, etc.

While some of the uncertainties in existing modeling are unavoidable and due to the emissions modeling (AP-42) process and the dispersion modeling (ISCST3) process, other uncertainties could be significantly reduced if monitoring were done. In particular, there is little existing PM10 monitoring data in this coal mining area. There is also no PSD-quality meteorological data available. This casts doubt on some of the modeling estimates. In order to reduce the uncertainties in the modeling done for permitting and to better understand existing PM10 levels, the Division requests that the ambient monitoring be done as part of the EIS process to improve our understanding of existing air quality in the North Fork area.

The Division estimates that a combined meteorological/PM10 site would probably cost about $30,000, not including operating costs after the first year. This could vary depending on availability of electrical power and other site costs.

6

4. **Class II PSD Increment for PM10.**

The minor source baseline date for PM10 in this area is August 20, 1984. Any changes in concentration since that date consumes or expands the available PSD increment. The Class II 24-hour PM10 increment is 30 micrograms per cubic meter ($\mu g/m^3$), the annual Class II PM10 increment is 17 $\mu g/m^3$.

The Division has not performed a periodic study of PSD increment consumption in this area. In addition, no PSD permits in the area have triggered an analysis of cumulative PM10 increment consumption in this area. The Draft EIS does not address this issue satisfactorily. Nevertheless, it may be outside the scope of the EIS to perform such an analysis. In any case, in order for anyone to perform a meaningful Class II increment analysis in this area, monitoring data are required to drive models and to provide a way to help assess the accuracy of the models.

5. Class I PSD Increments for PM10.

The Class I 24-hour PM10 increment is 8 micrograms per cubic meter ($\mu g/m^3$), the annual Class I PM10 increment is 4 $\mu g/m^3$.

7

Based on currently available data and modeling, the Division does not believe that emissions from the routine operation of the existing or proposed mines will threaten Class I PSD increments at West Elk Wilderness, a federal Class I area. This is based on a Class I PSD increment consumption analysis performed by Mountain Coal Company in 1996 at the request of the Division. That analysis suggests that an 8.2 Mtd ton per year throughput at the West Elk Mine (which is the closest mine to West Elk Wilderness) will consume about 1 $\mu g/m^3$ of the Class I 24-hour PM10 increment of 8 $\mu g/m^3$ at the West Elk Wilderness. Similarly, only about 0.02 $\mu g/m^3$ of the Class I annual PM10 increment of 4 $\mu g/m^3$ will be consumed. Increment consumption from the other mines should be less, based on transport distance and terrain effects. This analysis assumes that all emissions from the mine are increment consuming. That is, it assumes that the mines began operating after August 20, 1984. This assumption has not been checked.

GUNNISON COUNTY, COLORADO

BOARD OF COUNTY COMMISSIONERS
PHONE: (970) 641-0248
FAX: (970) 641-3061

November 2, 1999

Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, Colorado 81401

RE: North Fork Coal Environmental Impact Statement

Dear Mr. Jones:

1 As you are aware, Gunnison County has been an active member of the North Fork Coal Working group in identifying potential off site mitigation issues associated with the above referenced EIS. This work has resulted in the identification of transportation issues being of primary concern with regard to the transport of coal to the various markets. The proposed production levels will strain the already over burdened system.

2 There has been much work accomplished over the past 90 days in terms of coming to some agreement with the coal companies in regards to their financial participation in the implementation of the proposed upgrades to the various rail crossings. As a result of these discussions there will ultimately be a memorandum of agreement signed between the coal companies and Delta County. Although this will memorialize the understanding, the ultimate enforcement will be left with the local jurisdiction. **Therefore we feel it is imperative that the off site mitigation agreed to should be delineated within the Record of Decision.** In this way the Federal Agencies will become true partners, in helping to assure that these mitigation measures are implemented.

Please don't hesitate to contact our office if you have any questions.

Sincerely,

Fred Field, Chairperson — Marlene Zanetell, Commissioner — Jim Starr, Commissioner

cc Delta County Commissioners

LETTER 9

DELTA COUNTY, COLORADO

BOARD OF COUNTY COMMISSIONERS

COUNTY COURTHOUSE - 501 PALMER STREET - SUITE 227 - DELTA - COLORADO - 81416

PHONE: (970) 874-2100 FAX: (970) 874-2114

Dist. 1: Jim D. Ventrello - Dist. 2: Donna R. Ferganchick - Dist. 3: Ted H. Hayden

November 2, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, CO 81401

RE: COMMENTS ON DRAFT EIS

Dear Jerry:

1 The Board of Delta County County Commissioners appreciates the efforts taken by the BLM and USFS to initiate the consolidated Environmental Impact Statement (EIS) for the Iron Point Tract coal lease and the Elk Creek Tract lease as well as the coal exploration lease license. The implications of granting these leases offers both benefits to the community as well as raises community concerns for the off-site impacts given the increased coal production. The EIS process has provided a window of opportunity for the community to identify and begin to address the community issues. The content of the EIS has provided information that will be useful in assessing both the positive and negative impacts. It will help both the federal agencies and local communities make decisions that are in the best interests of the mines and the communities as a whole.

We wish to limit our comments to some general observations:

Transportation

2 1) In regard to impacts on surface transportation, we feel that the EIS merely acknowledges the potential for impacts but fails to address how those impacts might be mitigated and fails to analyze the cost/benefit of each possible mitigating measure. It would be helpful if in the final document, the consultant could take the preliminary work completed by the North Fork Coal Working Group and develop a long term plan for implementing and financing the surface transportation safety issues identified, including but not limited to, rail crossing safety improvements, safety education, providing emergency response services with equipment necessary to provide services on both sides of the track.

3

2) The plan discusses the impacts of increased traffic in the North Fork Valley, but merely mentions the possibility of increased traffic delays at Hwy 50 in Delta. This is undoubtedly the busiest intersection in Delta County and definitely needs more analysis relative to the impact of traffic delays due to train crossings on local businesses and traffic patterns in the City of Delta.

Socio-Economic Analysis

4

1) The County does not purport to be economists who can analyze economic models and would defer to comments submitted by others and particularly the comments submitted by Mary Chapman on behalf of the Delta Montrose Public Lands Partnership. Delta County has invested both time and funds with public and private sector entities to develop a regional economic design model to be used for analyzing impacts on the local economy and services that are provided by local governments and public institutions. The purpose of doing this was to "ground truth" default factors that are utilized in more generic models such as IMPLAN. To that end, the County is disappointed that the information was deemed not to be useful because "Gunnison was not in this region". If the federal agencies, that participated in the local Regional Economic Design Project (REDP) process, truly intended to use this information in its socio-economic analyses, then this issue of "not being in the region" could and/or should have been addressed early on since the agencies are dealing with multi-county management units and regional impacts. The County does not believe that with the resources available at the State Demographer's office and its participation in the development of the REDP that it would have been difficult to get this information so that it could have been incorporated in the local REDP and used in the analysis. Certainly, this will be a local government expectation as we go forward with a Forest Revision Plan - otherwise why did we go through the exercise of developing a local model?

5

2) In the community meetings that were held by the North Fork Coal Working Group many questions were raised regarding socio-economic impacts, both positive and negative, that affected the whole community, e.g. schools, medical services, infrastructure and services provided by local governments or public institutions. These community or "off-site" impacts were listed and submitted as part of the summary from those community meetings. They have not been addressed in the EIS to the extent that we believe either the County or the community expected given the agencies support for that information from the community meetings.

North Fork Coal Working Group

6

7

In conclusion, the Board is very supportive of the community-based initiative that has evolved out of the lease applications in questions. This group, representing local governments, environmental groups, local citizens and businesses, the three mines, and water and irrigation companies, has devoted many hours to the task of resolving community impacts, concerns and differences over the proposed lease applications. It has been a positive community experience from the County's perspective. We hope that the federal agencies will recognize this community-based initiative to address issues/problems at the local level. To the extent possible, we hope that you will consider the work that has been accomplished and is on-going in terms of Memoranda of Agreement with the coal mines and consider that carefully in the Record of Decision. We hope that you will support and trust this collaborative approach as a good way of "doing business" in the future.

In closing, thank you for the opportunity to comment.

Sincerely,
Board of County Commissioners
County of Delta

Jim D. Ventrello, Chairman

Ted H. Hayden, Vice-Chairman

Donna R. Ferganchick, Member

LETTER 10

DELTA COUNTY, COLORADO
DEPARTMENT OF HEALTH
255 West 6th Street – Delta – Colorado – 81416
Phone: (970) 874-2165 Fax: (970) 874-0222

October 20, 1999

Jerry Jones
Bureau of Land Management
2465 S. Townsend Ave.
Montrose, CO 81401

RE: Comments for North Fork Coal Draft EIS

To All Concerned.

We have reviewed the *Draft North Fork Coal Environmental Impact Statement Delta Gunnison Counties Colorado*. September 1999. A review of this document shows that the responsible parties have done a commendable job in thoroughly analyzing the environmental impacts. The importance of coal mining to the socio-economic well being of the region is of great value, but not at any drastic degradation of the environment. As governmental regulators, our mission is to protect the Public Health and Environmental Quality of our community, and to that end we offer these comments.

1

The conclusions of most of the sections acknowledge that there will be some impacts of the action alternatives, but in some cases that message is lost or understated. For instance, the Air Quality Summary, page S-6, Environmental Consequences states, "...emissions from mining operations in the North Fork Valley and coal trains are expected to increase for the No-action and Action Alternatives...". Then in the next clause the text states,"...not expected to cause ***any*** impacts to the existing ambient air quality...". The modeling summarized in Tables 3.1-11 indicates increases in pollution levels for each pollutant analyzed. Also, regarding air quality we could not tell what effects on ambient air quality increased commerce and population might have due to expansion of the coal mining industry. Some analysis of this aspect might be helpful. Therefore, we would recommend the summary statement should be changed from "no effects" on ambient air quality to "minimal" or "some" effect on ambient air. There are other examples of this and we would be glad to discuss them with you.

2

3

There is a long history of coal mining in the valley yet little data was provided on the environmental changes the old mining activity produced. There is a discussion in Appendix K regarding subsidence around Bear Creek, but it is observations of the author not a scientific study. There does not appear to be any comprehensive study that documents the environmental impacts from previous mining operations in the EIS. Around Bowie #1 there are wells, irrigation structures, Stevens Gulch and Roatcap Creek, perennial streams, under which there has been mining. Certainly there should be more historical evidence from the immediate area to be used to help predict the environmental impacts of mining the pending coal leases.

4

5

We are also concerned about emergency response times across the railroad tracks. With the greater frequency of coal train traffic of up to a train every two hours, emergency response times may be increased. Run around routes and different response times should be identified for the emergency responders for each of the railroad crossings in the county.

6

All sections of the text and analysis are informative and helpful, but in the end attentiveness

6 to clean conscientious operations by the industry must be practiced. Even though minimal environmental impacts are expected for the region the local impacts for the immediate neighbors of the mines appear to be quite intense. All regulatory authorities, including this Department, along with other government agencies must be diligent to make sure the mining industry complies with all laws and permit requirements in minimizing local problems. Coal mining history in this valley has shown that upset conditions and environmental accidents will happen. Therefore, increased monitoring in all areas must be required as a mitigating factor in order to protect the public health and environment.

7 We have found a few typographical errors and have noted them below for your information.

Yours truly,

Chairman, Delta County Board of Health

Health Officer

Director of Environmental Health

TYPOS

Some notes regarding the text and data are as follows:

8 • Page 3-4, Table 3.1-2, 1st subheading " Proposed Fine Particulate Matter PM 25. Should be PM 2.5 (PM 2 point 5).

9 • Page 3-4,Table 3.1-2, 2nd Subheading, should be, "Fine Particulate Matter (PM 10)

10 • The last sentence at the bottom of page 3-4 should read; "The PM 2.5 standards are currently under development."

11 • Page 3-5 Section 3.1.2.3, first sentence, and change "god" to "good".

12 • Page S-8, Subheading " Environmental Consequences, 1st bullet; "could flow on some sections" is not clear. Perhaps a change to read, "dewatering of the D seam could flow into Hubbard Creek."

13 • Page S-9, Section S-3.6, Ground Water, 2nd Paragraph. The location of the Town of Paonia Water is from colluvial deposits along the north side of Mount Lamborn not in Gunnison River alluvium. The Pitkin Mesa Water System is derived from wells and springs above the mining activities of the old Colorado Westmoreland Mine (Bowie #1) on Stevens Gulch.

14 • Page 3-44, Section 3.1.4, 2nd bullet, Diesel-electric locomotives are exempt from mobile source regulation, so there are no emission standards for mitigation.

LETTER 11

DELTA COUNTY, COLORADO
BOARD OF COUNTY COMMISSIONERS
COUNTY COURTHOUSE - 501 PALMER STREET - SUITE 227 - DELTA - COLORADO - 81416
PHONE: (970) 874-2160 FAX: (970) 874-2114
Dist. 1: Jon D. Vorwalle - Dist. 2: Donna R. Fergerstrom - Dist. 3: Ted H. Hayden

November 3, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Dear Jerry:

The North Fork Coal Working Group wishes to submit the work it has completed to date and the work that is in progress as its comments to the Draft Environmental Impact Statement (dEIS). The North Fork Coal Working Group is a coalition of representatives of local governments, the three mines in the North Fork Valley, environmental groups, local businesses and residents, a trucking company and irrigation water and domestic water companies, who have come together to address local issues related to the projected increase in coal production in the North Fork Valley. These efforts represents a community-based collaborative initiative to address concerns at the local level and to seek solutions that will benefit all interests and the community at large.

1

To date, the members of the group have entered into a Memorandum of Understanding (MOU) which formalizes the purpose and protocol for the group. A copy of the MOU is attached as Exhibit A.

Under the auspices of the Delta Montrose Public Lands Partnership, a series of community meetings were held early last winter to identify community issues. Six main issue themes emerged from these meetings. The North Fork Coal Working Group, committed to providing sound information regarding the issues for the public, held two additional informational meetings later in the spring. The first was on transportation issues and the second was on governmental roles in permitting coal mine activities. The North Fork Coal Working Group decided not to convene additional information meetings on subsidence, socio-economic impacts, air and water quality and mining in the North Fork Valley, in view of the work that was being done for the dEIS.

2

Instead, the group decided to put its time and energies into negotiating Memoranda of Agreement (MOA) with Bowie Resources for some specific issues and all three mines for off-site impacts that resulted from activities at all the mines. Attached as Exhibit B and

2

Exhibit C is the work completed to date for a MOA with Bowie Resources (Exhibit B) and the beginnings of an agreement with all three mines (Exhibit C). It is the hope of the North Fork Coal Working Group that these draft MOAs will be recognized by the federal agencies. It is our intention to have the MOAs finalized and signed within the next few weeks in order that they may be included in the final EIS and referenced in the Record or Decision.

3

In addition, a subcommittee of the North Fork Coal Working Group has been working diligently to identify railroad crossings, which need safety improvements. Exhibit D is a working draft matrix of these crossings and recommended improvements. As this point, members of the group have inspected each crossing with a representative of Union Pacific Railroad and they have submitted a preliminary draft of improvements to the Public Utilities Commission (PUC) for review. It is the group's intent to develop a 5-year plan for the construction/implementation of the improvements. It is proposed that the cost of improvements will be shared by the railroad, PUC, Colorado Department of Transportation (CDOT), Energy Impact funds, local governments and the mines.

4

The North Fork Coal Working Group does wish to note the omission in the dEIS of the potential safety hazards at many of the private crossings along the North Fork Branch of the railroad. The transportation subcommittee focussed its attention on the public crossings, but after a recent tour of all the crossings they were struck both by the number of private crossings as well as their potential hazard level. It was further noted that many of the private crossings may not be legally permitted by the railroad because they were constructed before the railroad issued permits and/or there have been changes to the original permitted use of the crossing, e.g. multiple residences. The group on the tour noted that due to either the poor condition of the private crossings and/or poor visibility due to overgrown weeds and brush, there is a great potential for accidents at some of the private crossings. The North Fork Coal Working Group wishes to recommend that private crossings be given more consideration and analysis in terms of improvements in the final EIS.

5

On behalf of the North Fork Coal Working Group, we appreciate the federal agencies' support of this community-based initiative. We hope that you will recognize this as a valuable addition to the usual NEPA process. We believe one of the strongest points of this effort has been the depth and cooperative spirit in which this community-based group has been able to engage itself in assessing the local issues and identifying solutions that are both cost effective and beneficial to all parties and the community at large. This level of assessment and demonstration of collaboration should be valuable for the decision-makers and we hope that you will continue to accept our work as it is finalized and our comments.

Sincerely,

Susan S. Hansen

Susan S. Hansen, County Administrator
On behalf of the North Fork Coal Working Group

Attachments

EXHIBIT A

NORTH FORK COAL WORKING GROUP

MEMORANDUM OF UNDERSTANDING

I. **PARTICIPANTS**

The parties to this Memorandum of Understanding (MOU) consist of three different categories depending upon the level of commitment to the North Fork Coal Working Group (CWG) as specified below:

A. **Charter Members**

Those parties and/or individuals who have shown commitment to the goals and objectives of the CWG by their regular attendance, constructive participation at meetings of the CWG, and their signature to this MOU.

To date those parties include: Delta County, Gunnison County, Bowie Resources, Ltd., Mountain Coal Company, LLC, Oxbow Mining Inc., Concerned Citizens of Delta County, Western Slope Environmental Resource Council, North Fork Area Planning Committee, Stucker Mesa Domestic Water Company, Roberts – Stucker Ditch Company, Savage Industries, Brenda Holloway and Brent Hellecksen.

B. **Invited Parties**

The CWG has specifically invited the US Forest Service, the Bureau of Land Management and federal agency contractors directly involved or familiar with the coal leasing EIS currently underway to attend meetings of the CWG as resources to the CWG.

C. **Additional Members**

Other community members may qualify as signatories to this MOU (i.e. become a member of the CWG) if they demonstrate commitment to the CWG's effort by constructive participation at a minimum of three meetings of the CWG. After the third meeting, the interested party(ies) may request membership in the CWG. The request will be considered and acted upon by the then current members of the CWG.

II. **PURPOSE**

A. **General**

The purpose of the MOU is to formalize the understanding of all parties to the MOU to work diligently towards the stated objectives of the CWG. Signing this MOU indicates that the participant understands the purpose of the CWG and agrees to the protocol/terms and conditions of participation in the CWG as outlined in this MOU. Those who choose not to sign the MOU are not members of the CWG, but are welcome to observe, listen and participate in any and all discussions subject to any restrictions established by the CWG.

B. **Mission Statement**

The stated mission of the CWG is "to sustain the viability of our coal industry in the North Fork Valley while protecting the environment and the economy and culture of our communities".

C. Goals and Objectives

The goals and objectives of the CWG are:

1. To provide a forum to encourage community discussions and collaborative resolutions;
2. To provide information and education to the community on important issues;
3. To propose mitigation(s)/resolution(s) for community issues including but not limited to Memoranda of Agreement;
4. To contribute to and to encourage the development of the community's vision for its future;
5. To build consensus

II. IMPLEMENTATION

A. Protocol

1. All members and invitees must identify their interest and/or group that they represent;
2. Keys to the successful function of the CWG are courteous and respectful speaking and listening;
3. All participants shall be given equal opportunity to speak, present or otherwise participate;
4. Shawn Hansen, Robbie LeValley and/or another qualified facilitator shall facilitate all meetings;
5. An agenda will be prepared and followed for each meeting;
6. Minutes of each meeting will be recorded and distributed to all members by a recorder agreed upon by the members of the CWG.
7. Meetings shall be limited to approximately three (3) hours.

B. Consensus

Decisions regarding the actions/activities of the CWG shall be by consensus. Recommendations/proposals of the CWG shall also be by consensus. Consensus shall mean 100% agreement of the CWG on a given issue. If there is not 100% agreement, the group will work back to a point of common ground before proceeding to make a decision/recommendation on the issue.

Consensus shall require two-thirds of membership to be present at a meeting that at least three days notice has been given to all members. No decision/recommendation shall be made on an issue that was not posted on the noticed agenda.

Recommendations/proposals of the CWG affecting specific CWG members and/or other parties shall be implemented through the development and execution of Memoranda of Agreement (MOA), or a similar instrument, of and between the affected CWG member(s) and/or other appropriate parties.

IV. AMENDMENTS

This MOU may be modified or amended at any time by the agreement of all the Members.

V. CONTINGENCY

The Members of the CWG and Participants agree to work diligently and in a timely manner to meet the goals and objectives of the CWG. In the event of failure or inability of any of the Participants to perform in accordance with the terms, conditions or intent of this MOU, the other Participants agree to make no claims against the non-performing party(ies) provided, however, that nothing in this clause will affect the rights and liabilities of any party hereto under local, state or federal law.

This MOU shall be effective upon execution by all the Members hereto.

Members have executed this MOU as of the last day written below.

Ted H. Hayden — Delta County — Date: SEPT 14, 1999

[signature] — Gunnison County — Date: 9/14/99

[signature] — Bowie Resource, Ltd. — Date: 9/23/99

[signature] — Mountain Coal Company, LLC — Date: 09/14/99

Kathleen Wait — Oxbow Mining Inc. — Date: 09/14/99

Concerned Citizens of Delta County — Date:

[signature] — Western Slope Environmental Resource Council — Date: 9/14/99

6

North Fork Coal Working Group
Memorandum of Understanding

North Fork Area Planning Committee	Date 9-14-99
Stucker Mesa Domestic Water Company	Date 9-14-99
Roberts-Stucker Ditch Company	Date 9-14-99
Savage Industries	Date
Brenda Holloway	Date 9-28-99
Brent Halleckson	Date

North Fork Coal Working Group
Memorandum of Understanding

V. CONTINGENCY

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This MOU shall be effective upon execution by all the Members hereto.

Members have executed this MOU as of the last day written below.

Delta County _____ Date _____

Gunnison County _____ Date _____

Bowie Resources, Ltd. _____ Date _____

Mountain Coal Company, LLC _____ Date 10-11-99

Oxbow Mining Inc. _____ Date _____

Concerned Citizens of Delta County _____ Date 10-19-99

Western Slope Environmental Resource Council _____ Date _____

6

EXHIBIT B

susan hansen

From: Steve Hinchman <wsrc@mi.net>
To: Keith Sieber <ksieber@pebresources.com>; Bill Bear <wbear@aol.com>; Richard Rudin <103510.1249@compuserve.com>; Dave Bristow <dbristow@gj.net>; Linda Lindsey <llindsey@wic.net>; Tom Morse <tomsil@co.tda.nd>; Kelly Watt <kelly_watt@ml.mbow.com>; Christine Johnston <C.Johnston@archcoal.com>; Susan Hansen <shansen@co.tda.nd.us>; Jerry Jones <Jerry_Jones@co.blm.gov>
Subject: BRL MOA 2
Date: Tuesday, November 02, 1999 12:08 PM

Dear NPCWG Members

Attached (and below) is the draft language on the Bowie MOA. So far the NPCWG has only approved the Reclamation sub-portion of section A.

For changes see reclamation deadlines (re-)inserted in items 3 and 4; reference to decibel levels in item 11, and the revised water language in item 12.

7

Provided BRL and Turner Creek can agree to this water language, it should solve that problem.

--Steve H.

DRAFT MOA
(Bowie Resources Ltd. Issues Only)

The North Fork Coal Working Group's "Bowie Subcommittee" offers the following proposed commitments to be drafted into a MOA between BRL and Delta County.

The subcommittee consisted of representative of BRL (Keith Sieber, Bill Bear, Greg Hunt) and WSERC (Steve Welcott, Tom Morse, Dave Bristow, Steve Hinchman). We occasionally had participation from Brenda Halloway and Concerned Citizens of Delta County (Richard Rudin).

A. Mitigation Commitments: BRL is offering the following commitments as remedies to concerns raised by the community. These commitments are subject to conditions set forth in Section B, and enforcement requirements set forth in Section C.

Reclamation Issues

1. BRL would initiate efforts to move the permit for the existing silo train load-out area on Hwy 133 from the old BRL #1 permit to the new BRL #2 permit. BRL would begin permitting activity after being issued the Iron Point lease. (This process will take some time and will result in technical revisions to both permits.)

7a

2. BRL would commit to spending a maximum of $50,000 in the year 2000 and an additional $50,000 in the year 2001 to either remove or skip and seal the damaged portions of the Stephens Gulch road. The work would be planned and coordinated by Delta County; and road restorations will be done to the level

7b

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of satisfaction required by the county.

3. BRL will use the Hwy. 133 stockpile as an interim coal storage area until we have constructed adequate coal storage in the new stockpile area indicated in PR-03. Construction of the new stockpile area will consist of several phases requiring alternate storage during construction at the Hwy. 133 area. When the new stockpile area becomes functional we will discontinue using the highway stockpile and reclaim the area within one construction season to the conditions required by state and federal regulations.

4. BRL would agree to begin reclamation of the Bowie #1 west portal area in the year 2000 construction season, provided we are the successful bidders for the Iron Point lease. This will include the gob piles and all other facilities west of the Stevens Gulch Road. BRL would also not oppose the BLM restoring the light use road in the bottom of Rentcap creek. Reclamation will be completed within two construction seasons.

5. BRL agrees to re-examine the reclamation status of the Bowie #1 east portal area by the end of 2001. Provided the Bowie #2 portal provides successful access to the remaining coal reserves in the East Pod of the Bowie #1 mine, BRL will agree to initiate the reclamation process. BRL also agrees to communicate on a regular basis the status of this and other reclamation projects to the Coal Working Group and County Commissioners.

Production Cap

6. BRL would agree to cap our production at 5 million tons per year throughout the life of the Bowie #2 mine with the following provision:

a) In the event any of the other operations in the valley were to encounter significant production problems which would result in their inability to meet their contractual commitments, BRL may increase production up to 6 million tons for the period of time the other operation is impaired. In preparation for this eventuality BRL would apply for and receive DMG and air quality permits for a maximum of 6 million tons per year.

b) Significant production problems are defined as a 50 percent or greater loss of production capacity due to a catastrophic event, such as a mine fire or flood.

c) Criteria for increasing production as described above will be included in BRL's state mine permits, and will be coordinated with the North Fork Coal Working Group, or its successor.

Trucking Issues

7. BRL has already commissioned the re-striping of the intersection leading into the existing silo area to facilitate increased truck traffic. The Colorado Department of Transportation has approved this plan. We would also commit to examining and improving as necessary the highway intersection of old and new Hwy 133 to facilitate increased truck traffic. (Longer turning and acceleration lanes, etc.)

8. *TABLED (until issues resolved with the RR and other parties.)* BRL is in negotiations for the construction of a new batch unit train load-out adjacent to the Bowie #2 mine site. BRL would commit to following this process in a timely manner to a successful conclusion, provided BRL is issued the Iron Point lease.

Community Issues

9. Bowie will continue our policy of minimizing unnecessary noise and lighting on our construction

7i

projects by using the Best Available Control Technologies.

7j

10. Provided BRL is able to dig coal access mains (tunnels) under Terror Creek from the Bowie Mine #2 Iron Point Tract to the East Pod coal reserves associated with Bowie Mine #1, BRL agrees to never use Garvin Mesa roads to haul coal; and will maintain these roads if used for exploration or drill rig access to whatever level necessary to protect residents and minimize dust and other problems.

7k

11. BRL will not install exhaust fans in the drainages surrounding Garvin Mesa (or can be re-phrased in terms of decibel level restrictions in the sending or receiving zones)..

7l

Water Rights

12. A water augmentation plan devised by BRL and Terror Creek Ditch and Reservoir Company, and approved by the State Water Engineer or State Water Court, will be required prior to mining within a mile of Terror Creek Reservoir or conveyance system. Digging of access mains linking Bowie Mine #2 to the Bowie Mine #1 East Pod reserves would be allowed prior to this agreement being finalized, provided that BRL and TCD&RC agree on an interim contingency plan to go into effect should this activity disrupt TCD&RC water deliveries. No secondary mining or pillar recovery would be allowed in these access mains within a subsidence angle of draw that could affect the TCD&RC.

7m

B. Contingency: Still being discussed. BRL has suggested the following.
The above points are contingent upon:

1. The execution of this MOA between BRL and the organizations and signatories listed below.

2. BRL being the successful bidder for the Iron Point lease.

3. BRL being allowed to mine the Iron Point lease.

4. There being no appeals to BRL's current permitting actions and BRL federal coal lease applications by the signing parties.

7n

C. Enforcement: Still being discussed. BRL has suggested a $1 million bond, which, if forfeited would be allocated to the community and transportation mitigation fund.

Steve Hinchman, Director
Western Slope Environmental Resource Council
Box 1612 Paonia, CO 81428
Phone/Fax: 970/527-5307
wserc@rmi.net

EXHIBIT C

D-R-A-F-T
Memorandum of Agreement

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8c

This Memorandum of Agreement ("MOA") is by and between Delta and Gunnison Counties, Bowie Resources Ltd., Mountain Coal Company, LLC, Oxbow Mining, Inc., Concerned Citizens of Delta County, Western Slope Environmental Resource Council, North Fork Area Planning Committee, Stocker Mesa Domestic Water Company, Rebers-Stocker Ditch Company, Brenda Holloway and others of the North Fork Coal Working Group ("CWG"), along with the Town of Paonia, the Town of Hotchkiss, and the City of Delta.

Background: Some concerns and issues raised at the community roundtable meetings sponsored in early 1999 by the Delta/Montrose Public Lands Partnership and the CWG, and during the BLM/USFS scoping process for the North Fork Coal EIS were in part the result of increased coal production proposed by all three mines currently operating in the North Fork Valley. These underground coal mines utilize longwall mining technology, and are currently operated by Bowie Resources, Ltd., Mountain Coal Company, LLC and Oxbow Mining, Inc ("the mines"). The only viable, high-volume method of transport currently available from the mines to their customers is by rail (currently owned and operated by the Union Pacific Railroad Company). As the mines incrementally increase their planned maximum production levels, it is assumed that the impacts of rail traffic (and some truck traffic) will also incrementally increase. Because the mines are presumably benefiting from the resulting increased production and transport of coal from the North Fork Valley, the mines (among others) are expected to share fairly in the cost of mitigating for these impacts.

Concerns and Issues: The proposed increased rail traffic poses the potential for a higher frequency of train safety problems, noise, access blockage and restricted traffic flow at rail crossings. Should high-volume truck transport of coal also increase, safety problems and noise would increase. These issues are said to also affect the quality of life and could potentially create competition for Energy Impact Funds or other financial resources that may be desired by the local governments for other purposes. These issues are all accentuated by population growth in the local communities (due to reasons other than the mines' employment). The source(s) of funding to address these impacts, as well as the instrument(s) and organization(s) to initiate, implement and administer the finances necessary for the mitigation projects are also concerns.

Potential Solutions: The following are potential solutions/mitigations offered for further consideration by signatories of this MOA: train scheduling, growth impact

D-R-A-F-T

8c

fees, education, crossing upgrades, crossing dividers, portable medical equipment, safety procedures in schools, drivers' license office and driver's education programs, noise reduction walls, EMS mutual aid agreements, plan and re-plan railroad crossing upgrades, communication with trains, train routes/road routes, and whistle/crossing signal alternatives. These solutions/mitigations are not intended to be all-inclusive nor comprehensive.

8d

Contingency: Participation by the mines in providing their fair share in mitigating for impacts due to increased production is dependent on the successful acquisition of the Iron Point coal lease by Bowie Resources, Ltd. and of the Elk Creek coal lease by Oxbow Mining, Inc. The mines will not be expected to nor required to fully fund any project, as growth and development along this historic railway is a significant component of any increase in impacts. All and all funding sources will be pursued for each and every mitigation project (but not to the detriment of or in conflict with any other application from the local communities for the same funds). The mines' current plans are to increase coal production, but these plans are subject to change due to mining conditions, markets, acts of god, etc. The mines' fair share of funding shall be also fairly appropriated between the mines, dependent on the actual incremental increases in production achieved by each mine.

The mines shall utilize their 1999 coal production (except that Oxbow Mining shall utilize its planned, already permitted and approved production level that would have been produced had it not experienced the mine fire early in 1999) as their base levels of production. These base production levels shall be utilized to determine the mines' individual contributions to increased production from the North Fork Valley when compared with future annual production.

Impacts review and subsequent mitigation plans and projects shall be updated bi-annually, and the previous year of production from each mine utilized to determine the mines' fair and equitable share.

Contributions made by the mines independently or jointly shall be considered in the determination of their fair and equitable share, provided that the contribution addresses the impacts herein (and per future updates) presented.

Other participants in the mitigation of impacts may include CDOT, UP, PUC, DOLA, EMS Council, School District, etc. Signatories of this MOA recognize that all authorizations, permits, etc. must be obtained from other participants, as appropriate, in order to proceed with those projects on lands, equipment or facilities owned or controlled by those other participants.

8e

D-R-A-F-T

Administration: The CWG (or a similar group to be chartered upon approval of the current CWG) shall continue from now forward in time to coordinate impacts identification, mitigation, and funding plans. The group shall conduct the biannual reviews and updates referenced above. The group shall coordinate with the Counties and local municipalities by participating as appropriate in the Quarterly Municipal meetings.

The signatories of this MOA and the aforementioned administrative group shall endeavor to complete the mitigations agreed to by consensus.

OXBOW MINING INC.

TO: Susan Hansen

COMPANY: Delta County

FROM: Kathy Welt

FAX NO. (970) 929-5177

NO. OF PAGES: 4 (Including Cover)

If you have any problems or cannot read this transmission, please call.

9

P.O. Box 535 • 3737 Highway 133 • Somerset, Colorado 81434 USA
TEL (970) 929-5128 • FAX (970) 929-5177

EXHIBIT D

WORKSHEET FOR RAILROAD CROSSING TOUR

Priority	Crossing Location/Number	Issues	Category of Issue	Existing Mechanism	Proposed Upgrade/Solution	Other Comments
	650 Road, Delta #253421K	Speed, visibility	Safety	Crossbars	Flashing lights & gates	Increased traffic as people use this roa as bypass from Hwy 50 to Delta to Nort Delta traffic
	Crossings within Delta 1st, 2nd, 3rd, 4th, 5th (twice) & Palmer streets	Peripheral vision/too many distractions, traffic volumes causing long traffic delays	Safety Inconvenience	Crossbars (not sure on all?)	Flashing lights & gates (short term) Realign rail to straighten tracks or Highway bypass	Want to analyze cost/benefit of doing flashing light upgrade in short term, wh long term solution might be realigning roadway, eliminating crossings, highway bypass, etc.
	Hwy 50 & 92 Intersection	Traffic backed up several blocks; Negative impact for business community	Inconvenience	Flashing lights	Railroad realignment or highway bypass	
	Delta Sand & Gravel (crossings in area of..)	Multiple business accesses combined with increasing Hwy 92 traffic	Safety	Crossbucks or Stop signs	Frontage road to eliminate multiple accesses in short, busy distance	
	Austin Sky Rod Hall)	Visibility and hill's	Safety	Stop sign	Flashing lights/ AL	
	Hwy 92 - Stengel's Hill	Visibility, sun in eyes going east in a.m., hillside blocks visibility	Safety	Flashing lights	Flashing lights and gate	
	J 50 Road	Visibility	Safety		Stop Sign	
	2150 Lane (Fish Hatchery) on Rogers Mesa	Visibility	Safety			
	Hwy 92 - Hotchkiss hill (east side)	Ineffectiveness of constantly flashing yellow warning light	Safety	Flashing lights & gates; yellow warning light	Yellow flashing warning light should only flash when train is coming. Post sign saying light flashing when train approaching	Question is whether or not constantly flashing light going west out of town (hidden behind tree foliage) is effective flashing all the time.

LETTER 11 (cont'd)

	Matthews Lane, Peonia area fronts grounds	Visibility, crossing on curve; Increased traffic on road	Safety	Crossbars	Flashing lights and gates	Another option would be to change the approach angle
	Lambern Hill, Peonia	Hill, visibility	Safety	Flashing lights	Used to be a yellow warning light that only flashed when train approaching.	Questions whether light should be flash all the time or should there be sign advising when flashing and what it mean
	Town of Peonia All crossing within town	See attached notes from John Bose, Peonia School Bus Barn	Safety Inconvenience Crossing conditions	Review and comments on tour		Need to consider the number of school bus crossings daily on all crossings in th Peonia school bus route - in terms of scheduling conflicts
	4150 Road (2 crossings) Old Shurbottom Road	Visibility	Safety	Crossbars ?	Flashing lights, Realign approach angle	
	Old Highway 133 (2 crossings	Visibility	Safety	Crossbars ?	Flashing lights Realign approach angles	

EXHIBIT D

WORKSHEET FOR RAILROAD CROSSING TOUR

Priority	Crossing Location/Number	Issues	Category of Issue	Existing Mechanism	Proposed Upgrade/Solution	Other Comments
	650 Road, Delta #253421K	Speed, visibility	Safety	Crossbuck	Flashing lights & gates	Increased traffic as people use this rou as bypass from Hwy 50 to Delta to Hart Delta traffic
	Crossings within Delta 1st, 2nd, 3rd, 4th, 5th (twice) & Palmer streets	Peripheral vision/too many distractions, traffic volumes causing long traffic delays	Safety Inconvenience	Crossbuck (not sure on all?)	Flashing lights & gates (short term) Realign rail to straighten tracks or Highway bypass	Want to evaluate cost/benefit of doing flashing light upgrade in short term, wh long term solution might be realigning roadway, eliminating crossings, highway bypass, etc.
	Hwy 50 & 92 Intersection	Traffic backed up several blocks Negative im[illegible] for business community	Inconvenience	Flashing lights	Railroad realignment or highway bypass	
	Delta Sand & Gravel (crossings in area of..)	Multiple business accesses combined with increasing Hwy 92 traffic	Safety	Crossbucks or Stop signs	Frontage road to eliminate multiple accesses in short, busy distance	
	Austin Dr Rod Hart	Visibility and hill	Safety	Stop sign	Flashing lights/ GL	
	Hwy 92 - Stengel's Hill	Visibility, can in eyes going east in a.m. hillside blocks visibility	Safety	Flashing lights	Flashing lights and gate	
	J 50 Road	Visibility	Safety		Stop Sign	
	3100 Lane (Fish Hatchery) on Rogers Mesa	Visibility	Safety			
	Hwy 92 - Hotchkiss hill (east side)	Ineffectiveness of constantly flashing yellow warning light	Safety	Flashing lights & gates: yellow warning light	Yellow flashing warning light should only flash when train is coming. Post sign saying light flashing when train approaching	Question is whether or not constantly flashing light going most out of town (hidden behind tree foliage) is effective flashing all the time.

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LETTER 11 (cont'd)

	Matthews Lane, Peonia grass landing grounds	Visibility, crossing on curve; increased traffic on road	Safety	Crossbars	Flashing lights and gates	Another option would be to change the approach grade
	Lamborn Hill, Peonia	Hill, visibility	Safety	Flashing lights	Used to be a yellow warning light that only flashed when train approaches.	Questions whether light should be flash all the time or should there be sign advising when flashing and what it mean
	Town of Peonia All crossing within town	See attached notes from John Bass, Peonia School Bus Barn	Safety Inconvenience Crossing conditions	Review and comments on tour		Need to consider the number of school bus crossings daily on all crossings in th Peonia school bus route - in terms of scheduling conflicts
	4110 Road (2 crossings) Old Reservations Road	Visibility	Safety	Crossbars ?	Flashing lights, Realign approach grade	
	Old Highway 133 (2 crossings	Visibility	Safety	Crossbars ?	Flashing lights Realign approach grades	

LETTER 12

City of DELTA

360 Main St. · Delta, Colorado 81416 · Phone (970) 874-7566 · Fax (970) 874-8776

October 27, 1999
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, Co. 81401
Attention Jerry Jones

North Fork Goal
Draft
Environmental Impact Statement

Comments from:
City of Delta
360 Main Street
Delta Colorado 81416
(970) 874-7566

1 The City of Delta appreciates the opportunity to make comment on the above noted DEIS, and would like to thank the BLM and Forest Service for the expedited process. As a community that depends on the successful operations of the coal companies, we support a decision as quickly as possible. The City is also a member of the Public Lands Partnership and the North Fork Coal working group, which values the balance of the economic equation related to the environmental impacts. The City would like for further consideration, the following:

Chapter 3 Environmental Analysis
3.14 Transportation

Issue - (As per DEIS) - Address truck and train impacts created by coal mining....Areas of concern include the amount of train traffic in the area... and the risks for accidents at railroad crossings in Delta County.

2 The transportation analysis focuses on State Hwy 133 and the rail spur from Grand Junction to the loadout at the West Elk Mine. The City of Delta requests a further analysis on the off site impacts related to the additional rail traffic with the estimated 123% increase in coal production over 1998. Further analysis needs to include safety issues relating to delays by trains at all crossings blocked on either side of the tracks within the City of Delta. Also not adequately addressed is the increased congestion based on projected traffic counts due to widening of HWY 50 to five lanes and increased train traffic. With train traffic proposed to increase from the current intervals between trains at 5 hours and 27 seconds to 2 hours and 24 seconds, inadequate

2 attention has been given to the impacts on our Main Street. For example, we are currently experiencing backups as far as City Hall, four city blocks from the crossings when trains pass through Delta.

3 The City is in agreement that the increase of train traffic related accidents is low, at HWY 50 where gates are currently located, but we request a more detailed study including mitigation measures associated with the six other local crossings. The majority of these additional crossings are on a curve where line of site is an issue. These crossings are among those under consideration by the Coal Working Group. They are to be included in a more defined and usable matrix that will give direction to potential solutions.

4 Regarding traffic counts, shown on Hwy 50 in Table 3. 14-1, the estimates used are not consistent with data we have recently gathered. The City of Delta has completed an independent traffic study that includes an analysis at the intersections where we have rail crossings. We are also in the process of conducting a Commercial/Retail Master plan that addresses the increased traffic congestion in our downtown. In both studies, our preliminary data shows higher traffic counts and uses a figure that is twice the amount related to accumulative increases in future traffic than what is in the DEIS. These counts need reviewed if not reconsidered. We ask that when our figures are available, that they be considered prior to a final decision, and considered under 3.14.5 Possible Mitigation and Monitoring.

5 As for the emergency vehicles ability to detour to unblocked crossings, the study says "When and where possible, emergency vehicles can detour to access unblocked crossings and go around the trains". This is not the case within the City of Delta. At any given point during the passage of the train, access from either direction due to the location of the crossings and the inability to cross the Gunnison River at the appropriate locations cannot be made. Through these two locally funded studies the City has begun looking at physical solutions to this issue such as potential grade separations, alternate truck routes, and frontage roads options. The communication solution between the rail and emergency providers has been discussed and any measures taken to enact this would be supported as a short term solution.

6 The City recognizes the fact that the costs to cure the impacts are significant and can not be shouldered by one private or public entity alone. Partnerships with Federal Agencies, State and Local Governments and the private providers are necessary. The Rail Company and Colorado Department of Transportation will also need to be at the table to partner with the communities in the impacted area of Delta County. The analysis needs to look into solutions, including the partnerships mentioned, and make recommendations in section 3.14.5 as solutions, not just merely recognizing the impacts without solutions.

Respectfully submitted,

Guy Pfalzgraff
Mayor

cc: City Council
City Manager
City Attorney

LETTER 13

DMEA

WE PUT SERVICE ON THE LINE.

November 3, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, Colorado 81401

Subject: Comments to the North Fork Coal Draft EIS

Dear Mr. Jones:

1 Delta-Montrose Electric Association (DMEA) serves approximately 25,700 customer accounts in Delta and portions of Montrose and Gunnison Counties. As a cooperative, DMEA is non-profit and returns excess revenue to its consumer-owners.

2 The No Action Alternative would result in a significant loss of revenue to DMEA. The existing electric system fixed costs would then be spread over fewer DMEA customer accounts causing pressure to increase electric rates to the remaining consumer-owners.

Sincerely,

Dan McClendon
General Manager

DELTA-MONTROSE ELECTRIC ASSOCIATION P.O. Box 910, Montrose, Colorado 81402-0910 Telephone: 970/249-4572 - Montrose
Telephone: 970/874-8091 - Read

LETTER 14

Lawrence Mosher <lfmosher@acsol.net> on 11/02/99 11:45:22 PM

To: jerry_jones@co.blm.gov
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: Private railroad crossings

Black Paw Ranch
323 4200 Drive, Crawford CO 81415
970-921-6400 fax: 970-921-6500 lfmosher@acsol.net

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Comments on railroad private crossings safety for the coal EIS

1 There are an estimated 50 plus private crossings of the Union Pacific Railroad line between Bowie and Delta in the North Fork of the Gunnison valley. The transportation committee of the North Fork Coal Working Group inspected these crossings as well as all the public crossings Oct. 29, 1999, as guests of the railroad's Kevin Leminger. We found many of these private crossings dangerous because of lack of visibility and lack of crossing warning devices. Mr. Leminger is well informed about these private crossings and the danger they pose to human life and vehicles that will increase as coal production increases in the valley.

The purpose of the Coal Working Group tour was to inspect public crossings in order to prepare a comprehensive matrix listing all the crossings that need better safety devices or other work to improve safe crossings by the public. The Group wishes to note, however, that many of the private crossings pose a significant safety hazzard that should be addressed too.

2 It was suggested at the Nov. 2, 1999 Coal Working Group meeting in Paonia that all the private land owners affected should be informed of the added risks posed by the increased rail traffic to be created by the federal leasing of more coal. The responsibility to accomplish this informational service should rest with the Union Pacific Railroad, the coal companies involved in the federal leasing, and the federal agencies involved in preparing this EIS. The private landowners holding the crossing permits should be given the opportunity to work with the railroad to improve the safety of their crossings.

This comment is respectfully submitted by Lawrence Mosher, speaking for the Coal Working Group.

LETTER 15

HIGH
COUNTRY
CITIZENS'
ALLIANCE

November 1, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Ave.
Montrose, CO 81401

Dear Mr. Jones

Please accept our comments concerning the BLM Draft EIS for Coal leasing in the North Fork Valley.

1 High Country Citizens' Alliance is concerned that the BLM has not entertained all reasonable alternatives for the proposed project as required by NEPA. Specifically, we question why the BLM has not chosen to consider in detail any alternatives that can fulfill the purpose of the project, but at a reduced level of mining. All of the alternatives considered in the DEIS propose greatly increased levels of mining. We think that at minimum one alternative proposing a lower total volume increase is appropriate, and required by law. Without a valid range of alternatives the Final EIS will be unable to compare the full range and scale of impacts of the proposed coal expansion. Nor will it be it able to propose mitigations to lessen or avoid those impacts.

We note that there are few mitigation measures mentioned that could lessen the off site impacts of this proposal. We think the agency has a real responsibility to the community to propose mitigation for the following:

2 Truck traffic: The preferred alternative would increase trucking on Hwy 133 from under 200 trucks/day now to 978 trucks/day 365 days year.

3 Train traffic: If adopted, the preferred alternative would more than double train traffic up the North Fork Valley, increasing trains to an average of 12 trips per day, everyday of the year.

4 Water Usage: The DEIS fails to ensure that agricultural interests will not be critically impacted by the proposal. The BLM should include language requiring a State-approved water augmentation plan be in place prior to mining. This is a reasonable request that BLM should make.

5 Noise: The DEIS glosses over the impacts of noise. We request that the FEIS include noise mitigation measures such as noise barriers/walls and landscaping, slowing train traffic through towns, and providing double pane windows or providing other sound-proofing for homes with proven noise problems.

P.O. BOX 1066, CRESTED BUTTE, COLORADO 81224, (970) 349-7104
email: hcca@csn.net web page: http://www.sni.net/hcca

6 Consideration of a reduced leasing alternative will also mean that many of these off-site impacts can be lessened. As a result of BLM considering a more modest proposal for approval, many of the issues we've highlighted would be less problematic. We strongly encourage the BLM to consider a reduced leasing alternative among the suite of alternatives proposed thus far.

Thank you for the opportunity to comment. Please keep us informed about this proposal.

Sincerely,

Sandy Shea

Sandy Shea
Public Lands Director

3 November 1999

Bill Bear
Vice President Operations
Bowie Resources Ltd.
Paonia, CO 81428

US Department of the Interior
Bureau of Land Management
2465 S. Townsend Avenue
Montrose, CO 81401
Attention: Jerry Jones

RE: Comments on the DRAFT North Fork Coal Environmental Impact Statement

Comments are organized in the following way. First; comments relating to the maps (figures), Second; comments relating to the document.

Comments Relating to Maps

1 Figure 3: The Bowie No. 2 Mine map needs to be up-dated. Bowie has now developed entries throughout almost all of the private ground and through a right of way in the federal Iron Point Lease area.

2 Figure 4: Unfortunately the proposed drill hole locations on this figure represent an early version of the thinking that went into formulating the exploration license application. In the final version, which was completed at time of the draft but inadvertently omitted, several drill holes were located at different locations from those shown on figure 4. In addition, new interpretation of geologic data has provided fresh insights into the need for drill hole placement, which has resulted in the moving of three proposed drill hole locations

3 In addition to drill hole locations, a second change has been made in Bowies Exploration License Application. That portion of the exploration license area which overlapped with the Elk Creek Lease Area (Section 35, East ½,S1/4 of the NE ¼) has been withdrawn such that the Exploration License Application shares a common boundary with the Elk Creek Lease Area but does not overlap it. This change effects many of the base maps.

4 A paper copy of the updated locations and adjusted license application boundary are enclosed together with an electronic version for ease of incorporating the corrections into the final EIS document.

5 Figure 10: The blue colored wind direction arrow is either not well explained or is in apparent conflict with information presented on the wind rose (figure 8). Figure 8 shows prevailing wind direction "direction from which the wind is blowing" is from the SSEast whereas the wind direction arrow implies a prevailing wind direction from the NNEast, exactly opposite that shown on Figure 8.

6 Figure 14. Some of the Monitoring locations shown on this figure are suspect and need to be re-visited. There may be a problem with coordinate transformation.

7 Figure 18. Apparent omission of the "Hubbard Creek Extension Ditch" which transfers water from Hubbard Creek X-drainiage into the Terror Creek (Bruce Park Reservoir) and has water rights associated with it. An ACAD drawing in BRL coordinate system will be included in digital format to make it easier to add this feature.

8 Figure 19: The same comments may apply to this figure as apply to figure 14.

9 Figure 25: An explanation of A-Weighted Sound level on the figure would be helpful.

Comments Relating to the Document

New Information and Factual Errors

10 **Section 2.4.1**
Change; A total of 25 drill holes are now planned. Hole One was omitted with the re-adjusment in the boundary against the Elk Creek Coal Lease Tract.

11 **Table 2-4**
A factual error within the Transportation section of the table where the term "Round trips" is used when the term "Pass-Troughs should be used. That is the numbers cited in the table of average number of trips for the North Fork Branch of the UP Railroad and the average number of trips per day for coal truck haulage between Bowie #1 and Bowie # 2 is consistent with one-way trips not round trips. This error is in contrast with the correct information presented on Figure 33.

12 **Table 3.12-9 Measured Noise Emissions From Mining Activity**
Data from this table was collected prior to BRL installing a new mine fan. As supplemental data to this table and other appropriate locations in the document a study conducted by Michel Hankard of Air Sciences Inc. is included with these comments.

Conceptual & Structure Issues

In 1997, the Council on Environmental Quality (CEQ) published a study of the effectiveness of NEPA after 25 years. Of the consistent comments by the interviewees was that NEPA documents have become too technical, wordy, and confusing. The same may be said of this EIS. The following discussion pertains to four general concerns with the document:

The purpose and need is confusing and inadequate.
There is no apparent connection between the alternatives evaluated and the underlying needs of the proposed project.
The basis for impact analysis is erroneous.

The document contains too much extraneous information (information not relevant to the decision to be made).

Purpose and Need

13

The purpose and need section contains information other than the purpose and need for the project. If it's not necessary for that section, then the extraneous information should be moved to a more appropriate section or included in a new section. If it's not relevant to the document (the decision to be made), then it should be removed from the document. There is no clear statement of the needs for the project, i.e., clean coal, local economic development. Without clearly defined needs, the range of alternatives is expansive and the project is subject to injunction (Natural Resources Defense Council v. U.S. Department of Navy, C.D. Cal. April 26,1994) for not including alternatives that meet the requirements of the "purpose of the project". (Purpose without needs = infinite alternatives).

Alternatives

Alternatives are alternative methods of achieving the purpose and need for the project. According to CEQ, alternatives are necessary to resolve issues that result from conflicting uses of resources. Without the readers knowing what the underlying needs of the project are, then the readers could not possibly understand whether or not "all reasonable alternatives" have been identified or evaluated (i.e., alternatives to what? to resolve a conflict over which resource?) In

14

regards to the statement that alternatives were developed by the I.D. team, what criteria was used to develop the alternatives? How do the alternatives relate to the needs for economic development

15

and clean coal?

16

In response to concerns expressed regarding the "number" of alternatives to be evaluated, the quantity of alternatives is not relevant to compliance with NEPA (Missouri Mining, Inc. v. Interstate Commerce Commission, 8th Circuit Court, August 29, 1994). What is relevant is that the alternatives be identified as the "only" alternatives that reasonably need to be evaluated, and explain why (meeting the "purpose of and need for the project").

Impact Analysis

17

Neither applicant is requesting the BLM, USFS, or OSM to authorize an increase in production. Nor will the approval of either applicant's application result in an increase in production. Therefore, the baseline production by which further impacts are compared is the permitted production rate as of today (the end of the EIS comment period). The No Action Alternative is the status quo of the activities or continuing with a course of action until that action is changed; in this case mining at the permitted (assumed production) rate.

18

Among the several goals to be accomplished by the agencies in conducting an impact analysis pursuant to the National Environmental Policy Act (NEPA), are 1) provide the public with a record of the analysis process that the agency went through in making a decision, 2) promote public involvement during that process, and specifically with an EIS 3) provide the decision-making agency with a management tool. In order for an EIS to function as an effective management tool, it must contain accurate information.

19

The trail of logic that the reader of an EIS should be able to follow leads from the Purpose and Need to the analysis of Alternatives and ultimately to the Decision(s). The No Project (Action) Alternative assumes that no Action will be taken by the agencies regarding, in this case, the application for coal lease sale. The EIS must rely on information from the applicants regarding what, when, how, and under what authority, they might function should the agency adopt to not take action (select the No Project Alternative). Although, from a decision making standpoint, the selection of the No Project Alternative represents maintenance of status quo, it also means that the applicant continues operating their business as allowed under existing entitlements and authorities (permits).

20

It follows then that the impacts to be analyzed in this EIS are the differences between what Bowie and Ox Box are entitled to do without further decisions regarding the application for coal lease sale (No Project Alternative), and those impacts that might result from the agencies making the decision to conduct the coal lease sales.

21

Baseline, under these circumstances, is an arbitrary point in time at which a snapshot is taken of the environment. Baseline impacts may be drastically different than those impacts in the No Project Alternative, particularly in a case where environmental impacts may continue to occur or increase under other entitlements, and outside the decision currently before the agencies. For example, Bowies' production rate of 2 million tons per year (mtpy) in 1998 may represent Baseline. In order to determine the impacts from the No Project Alternative, the EIS must rely on information from the applicants regarding what, when, how, and under what authority, they might function should the agency adopt to not take action (Fairview Neighbors vs. Ventura County, defendants Transit Mixed Concrete Company, No. B120456). Bowies' current entitlements, land holdings, infrastructure, and publicly available plans, identify a production rate of 5 mtpy. Baseline is 2 mtpy, the No Project Alternative is 5 mtpy, and the impacts resulting from the agencies' decision are those resulting from the authorization of the production described in the Application (5 mtpy).

> In the Fairview decision, the court found that the environmental review document "appropriately assumes the existing traffic impact level to be the traffic generated when the mine operates at full capacity pursuant to the entitlement previously permitted". The Court also stated that "discussing the possible environmental effects of the project based on actual traffic counts would have been misleading and illusory under the facts here.

If this EIS is to be used as a management tool, upon which accurate decisions are made, then the methodology for defining baseline, project, and no project impacts must be the same for both

21 applicants. The following is a list of specific places in the EIS that a disparity occurs regarding computation of impacts attributed to the respective applicants.

EIS Summary:

- Page S-4, Section S-2.1, Alternative A – No Action.
- Page S-6, Section S-3.1, Air Quality/Climate, Environmental Consequences.
- Page S-15, Section S-3.12, Noise, Environmental Consequences.
- Page S-16, Section S-3.14, Transportation, Environmental Consequences.

22

EIS Chapter 2, Alternatives Including the Proposed Action:

- Page 2-2, Section 2.2, Formulation of Alternatives, Alternative A – No-Action Alternative.
- Pages 2-4 through 2-7, Section 2.3.2, Alternative A: No-Action Alternative – Iron Point Coal Lease Tract.
- Page 2-25, Table 2-4, Summary of Impacts by Alternative for Each Issue.

EIS Chapter 3, Environmental Analysis:

- Page 3-7, (Air Quality/Climate) Section 3.1.3.2, Effects of Alternative A (No-Action).
- Page 3-8, Table 3.1-4, Summary of PM Emissions From Regional Mines.

An obvious typographical error in the year used for baseline emissions, 1998 instead of 1988.

This table, as presented, misinforms and misleads the public on the issue of baseline emissions in several significant manners:

23

1. The second portion of the table titled "Baseline Emissions Assuming Oxbow Operated at Planned Capacity" presents a mix of Oxbows permitted and Bowies actual production levels for 1998. The title suggests that Oxbow would have produced at their permitted level but for some reason. The reason suggested is the mine fire, however, the fire did not occur until 1999. There were no mitigating circumstances preventing Oxbow from producing at their permitted level during 1998, thus no justification for mixing permitted and actual production levels.

2. The table further exacerbates the error by omitting the Bowie # 1 permitted level. That is, if the table was intended to reflect a decision to base emissions baseline on permitted levels, Bowie # 1 and Bowie # 2 permitted levels should have been used.

3. This table does not accurately reflect Bowie Resources current Air Quality Permit status.

24 Bowie Resources Ltd. holds the following "Air Quality" Permits for the Bowie No. 2 Mine and processing facility:

24

PERMIT NO:	DATE ISSUED	TONS PER YEAR	SOURCE & EQUIPTMENT
96DL103-1	AUGUST 6, 1999	5,000,000	Portal Screen System
96DL1-3-4	AUGUST 6, 1999	5,000,000	Loadout & Silo Facility
96DL103-6	AUGUST 6, 1999	2,500,000	Coal Crusher
96DL103-7F	August 6, 1999	5,000,000	Fugitive Emissions

25

- Pages 3-9 and 3-10, Table 3.1-5, Tailpipe Emissions for No-Action Including Cumulative Impact.
- Pages 3-11 and 3-12, Table 3.1-6, Tailpipe Emissions for Year 1998 Actual Baseline.
- Pages 3-164 and 3-165, (Noise) Section 3.12.4.2, Effects of Alternative A (No-Action).
- Page 3-164, Table 3.12-5, Assumed Coal Trains Used for Noise Calculations.
- Page 3-187, Table 3.14-2, Coal Production From North Valley Coal Mines.
- Pages 3-187 through 3-191, (Transportation) Section 3.14.3, environmental Consequences.
- Page 3-190, Table 3.14-4, Traffic Frequency Estimates on State Highway 133 East of Paonia (Colorado).

Extraneous Information

26

There appears to be much information in the document that does not relate to the decision to be made by the agencies. Although the information might be interesting to two or three people, it does nothing for helping the reader understand the decision and actually obscures some of the pertinent issues. Extraneous information includes details of other regulations, permits, and approvals necessary to mine coal in Colorado, contract and vendor information regarding materials, labor details, etc.

27

28

Document Organization/Presentation

29

The presentation of analysis in Chapter 3 is inconsistent. The discussion of environmental consequences seems to be based on differing production levels depending on the resource area under evaluation. For example, the anticipated production level for Oxbow ranges anywhere from 4, 5 or 6 mtpy and not one consistent anticipated production level is the basis for analysis. The Air Quality/Climate section assumes 5 mtpy for Alternative B impact analysis, whereas the Transportation section projects 6 mtpy and train traffic impacts are based on 6 mtpy. By utilizing differing anticipated production levels, the document is in essence evaluating inconsistent scope of environmental consequences for resources areas.

30

In addition, the presentation of information in the EIS is difficult to follow. One of the purposes of the EIS is to inform the public; however, the organization of the EIS may be difficult and confusing for the average citizen to read. The environmental consequences discussion sections are confusing because some resource sections discuss direct and indirect impacts and specifically state if there are no indirect effects, while other sections discuss direct effects but remain silent on

30 indirect effects. In addition, some resource sections combine cumulative impact discussions with other alternative discussions while other resources sections discuss cumulative impacts under its own heading. The analysis and information should be presented in a clear, consistent manner and the organization of the document should have a consistent format. In particular, we would recommend that the Air Quality/Climate section be considered for further editing and/or

31 modification to provide clarity to the section.

General Comments

Section 3.14.4.2 Production Limits

32 With regard to comments received during scooping relative to production limits, there were also comments made during public scooping meetings relative to production limits. Those comments were almost always couched in terms of perceived impact from transporting coal through the valley via Rail. It was said if there were a method of transporting coal without the impact from trains, production limits would not be an issue. The attached opinion relative to the authority of BLM to regulate rail traffic is offered. (Opinion from Jackson and Kelly PLLC RE: Surface Transportation Board Jurisdiction over Railroad Traffic, Iron Point Tract)

33 This section includes an unsubstantiated claim that production limits would have negative economic impacts. The EIS should make it clear to the reader that no decision before the agencies would result in changes in production. Therefore any alternative, or mitigation measure involving production limits would be inappropriate in this context.

34 In particular, the Air section is extremely difficult to follow.

To: Jerry_Jones@co.blm.gov, j3jones@co.blm.gov
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: IP Explortion Lic Map

Jerry;

35 Attatched please find an ACAD 14 file with final drill hole locations.

Cheers,

Greg

- xplan-change2.dwg

AUTO CAD FILE RECEIVED ELECTRONICALLY.
J Jones
11/4/99

LETTER 17

JACKSON & KELLY PLLC
ATTORNEYS AT LAW
SUITE 2710
1099 LINCOLN STREET
DENVER, COLORADO 80264

TELEPHONE 303-390-0009 TELECOPIER 303-390-0040

http://www.jacksonkelly.com

(303) 390-0009

July 20, 1999

VIA FACSIMILE (970) 929-5256

Greg Hunt
Bowie Resources, Ltd.
P.O. Box 483
Paonia, CO 81428

Re: Surface Transportation Board Jurisdiction over Railroad Traffic
Iron Point Tract
J&K File No. 70098/312

Dear Greg:

As we discussed by telephone on July 15, 1999, I investigated the rather esoteric question you raised as to whether the BLM, in issuing a federal coal lease for the Iron Point Tract, would have the right to include stipulations limiting the amount of production from the lease for the sole purpose of limiting the amount of railroad traffic from the mines in the Paonia area down the valley to Delta. You had questioned whether the Interstate Commerce Commission (now the Surface Transportation board) might have exclusive jurisdiction that would preclude the BLM from attempting to regulate the rail traffic in this manner.

I had the good fortune of discussing the issue with Mr. Bob Opal, an in-house attorney for the Union Pacific Railroad. Bob explained that under § 10501 of the Interstate Commerce Commission Termination Act (ICCTA), effective January 1, 1996, the Surface Transportation Board (STB) (the successor to the Interstate Commerce Commission) has exclusive jurisdiction over rail transportation. Further, any remedies that the STB establishes under that statute with respect to the regulation of rail transportation are exclusive and preempt the remedies provided under other federal or state law. A copy of that provision is enclosed.

1

Section 10501(b) was recently interpreted by the Ninth Circuit Court of Appeals in the City of Auburn v. United States case. The court found that the ICCTA's grant of exclusive jurisdiction to the STB covered almost all matters of rail regulation, including

environmental as opposed to purely economic matters. At issue in the case was whether an Environmental Assessment performed by the STB with respect to an extension of service by the railroad preempted any environmental regulation by state or local authorities. The court found that it did. Particularly pertinent to the Iron Point Tract issue is the following language from that decision:

> Additionally, given the broad language of section 10501(b)(2), (granting the STB exclusive jurisdiction over construction, acquisition, operation, abandonment, or discontinuance of rail lines) the distinction between "economic" and "environmental" regulation begins to blur. For if local authorities have the ability to impose "environmental" permitting regulations on the railroad, such power will in fact amount to "economic regulation" if the carrier is prevented from constructing, acquiring, operating, abandoning or discontinuing a line.

1

The court went on to say:

> We believe the Congressional intent to preempt this kind of state and local regulation of rail lines is explicit in the plain language of the ICCTA and the statutory framework surrounding it.

Although the City of Auburn case involved an issue of STB jurisdiction preempting state or local jurisdiction, the ICCTA is clear that the STB's jurisdiction is exclusive, not only with respect to state and local agencies, but with respect to other federal agencies as well. Therefore, we believe that any attempt by the BLM to regulate or limit rail traffic in the valley by including stipulations in the lease limiting production rates would be in violation of the jurisdiction of the STB granted in the ICCTA.

If you have any questions or wish to discuss this any further, please give me a call.

Very truly yours,

David M. Arnolds

DMA:ec

D0300332.1

UNITED STATES CODE ANNOTATED
TITLE 49. TRANSPORTATION
SUBTITLE IV--INTERSTATE TRANSPORTATION
PART A--RAIL
CHAPTER 105--JURISDICTION

Current through P.L. 105-394, approved 11-13-1998

§ 10501. General jurisdiction

(a)(1) Subject to this chapter, the Board has jurisdiction over transportation by rail carrier that is--

(A) only by railroad; or

(B) by railroad and water, when the transportation is under common control, management, or arrangement for a continuous carriage or shipment.

(2) Jurisdiction under paragraph (1) applies only to transportation in the United States between a place in--

(A) a State and a place in the same or another State as part of the interstate rail network;

(B) a State and a place in a territory or possession of the United States;

(C) a territory or possession of the United States and a place in another such territory or possession;

(D) a territory or possession of the United States and another place in the same territory or possession;

(E) the United States and another place in the United States through a foreign country; or

(F) the United States and a place in a foreign country.

(b) The jurisdiction of the Board over--

(1) transportation by rail carriers, and the remedies provided in this part with respect to rates, classifications, rules (including car service, interchange, and other operating rules), practices, routes, services, and facilities of such carriers; and

(2) the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located, entirely in one State,

is exclusive. Except as otherwise provided in this part, the remedies provided under this part with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law.

(c)(1) In this subsection--

(A) the term "local governmental authority"--

(i) has the same meaning given that term by section 5302(a) of this title; and

(ii) includes a person or entity that contracts with the local governmental authority to provide transportation services; and

1 November 1999

Bureau of Land Management
Attention: Mr. Jerry Jones
2465 So. Townsend Avenue
Montrose, CO 81401

Ref: EIS-Iron Point and Elk Creek Coal Lease Tracts

Gentlemen,

In reference to your September, 1999 Draft "North Fork Coal Environmental Impact Statement, Delta and Gunnison Counties, Colorado, we would like to express concern and questions about the following items:

1 Appendix K, Pages K-22 to K-24, "Longwall Mining Beneath Terror Creek Reservoir"
Due to the known instability of the North Fork Valley of the Gunnison River, your analysis of the subsidence hazards to the reservoir structure are too optimistic. Insurance companies normally do not consider subsidence insurable. In regard to the angle of draw, we have heard that angles as high as 25 degrees have been observed at the West Elk Mine and as high as 63 degrees near Craig in northwest Colorado. In addition, no safety factor has been applied or indication of any modeling done. As previously stated, we believe a safety factor of 500% should be used due the catastrophic danger involved with habitations below the dam.

2 If Iron Point Coal Lease is permitted as described in Alternatives B, C and D, then we would be forced to support Alternatives A. If boundaries were redrawn similar to those shown on previous EA, we could be much more supportive. We have no objections to the Elk Creek Coal Lease.

3 Appendix K, Page K-22, 8.4.1
While "Terror Creek Reservoir is outside any proposed lease tract boundary", with a reasonable safety factor applied to the angle of draw, it would be affected.

4 Page 3-53, Appendix K, Page K-24
We take exception to "Mining induced seismic events as a result of longwall mining would be minimal". During periods of heavy rainfall, even small seismic events could trigger landslides due to the instability much of the area. Also, some room and pillar mining would be done in driving accessways which could create additional stronger seismic effects increasing subsidence danger. Seismic energy waves can reinforce which can cause an applified effect from a small event.

5 Page 3-51, 3.3.3.1
What is the meaning of "leaks would not be offered".

6 Page 3-69, Table 3.5-3, Water Rights Summary
Two rights were omitted for "Terror Ditch Extension" 6.0 CFS, Apro Date 01/01/1884 and 23.0 CFS, Apro Date 12/31/76.

7 Pages 106-110 Hydrology
On page 107 it states that "Mining would also result in dewatering of saturated zones of the mined horizon". We also feel that subsidence associated with the mining could have an adverse effect on springs and seeps and also could lead water flow down cracks into the mined areas and into northeast dipping aquifers with resulting loss of water to Terror Ditch and Reservoir Co. We therefore disagree with the conclusions on page 110, 3.6.4.2.

8 In addition to the above, we also think that the U.S. Forest Service needs to look at cumulative impacts in this area. This should include the additional impacts from the proposed timber sale in our water shed. Previous timbering in our water shed have had an adverse effect on our mid-summer water supply due to the accelerated snow melt in spring and early summer, especially in areas of clear cutting.

9 Page 110, Exploration Drill Holes
In paragraph 3.6.4.1., close watch should be kept on water quality and quantity in areas of exploration holes and if adverse effects are noted, casing and cementing of holes should be undertaken.

10 Pages 3-49 & 50, Figures
We want to compliment you on your preparation of your maps and general geology.

11 While Terror Ditch and Reservoir Co. does not want to impede the development of these coal resources unnecessarily, we do not feel we should assume additional risks as we do not share in any of economic benefits from this endeavor. We therefore assume that the Bureau of Land Management and the United States Forest Service would underwrite any damages to our water system and assume responsibility and liability for any failure to our Dam as the length of stay of any mining company is an unknown.

Sincerely,
Terror Ditch and Reservoir Co.

Richard H. Rudin
President

John C. C. Mathewson, Geol Engr
Vice President

Brent Helleckson, Aerospace Engr
Secretary

LETTER 19

"Dennis Short Citizens Coal Council" <ccc@nstone.com> on 11/01/99 02:54:13 PM

Please respond to "Dennis Short Citizens Coal Council" <ccc@nstone.com>

To: "Jerry Jones" <jerry_jones@co.blm.gov>
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: North Fork Comments

Citizens Coal Council
Working together for safe homes, clean water & a healthy environment in the coal fields

1705 S. Pearl St. #5
Maryland Ave. NE #408
Denver, CO 80210
Washington, DC 20002
303-722-9119
202-544-6210

October 29, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Ave.
Montrose, CO 81401

Jerry_Jones@co.blm.gov

Re: Comments submitted for the BLM draft EIS for new coal leasing in the North Fork Valley.

Dear Mr. Jones:

The Citizens Coal Council is a federation of 52 grassroots organizations from 22 states and is the only national organization working full-time to protect the residents of coalfield communities and their environment. On behalf of the entire CCC federation, I am submitting these comments regarding the BLM draft EIS for new coal leasing in the North Fork Valley.

1 More Coal
The preferred alternative for the draft EIS recommends a huge increase in coal production. Across the country, our members have watched as coal companies mine more and more coal to make a profit in a market where the price of coal continues to fall. To make a profit, companies are forced to neglect environmental protection and worker safety. We call this practice rip and run and that's what I fear will happen to the North Fork Valley if the BLM grants the preferred alternative leases.

2 Coal companies throughout the West are operating with thin profit margins and many could easily go out of business if the price of coal dips and leave environmental restoration to the taxpayers. Just last month I visited two mines in Montana where company officials told me that, "No one in their right mind would open up a coal mine in today's market. In fact, if we knew what things would be like 10 years ago, we'd have never gotten into this business." I believe these company officials and allowing a huge increase in coal production in the North Fork Valley will worsen this problem. I strongly urge you to recommend smaller coal leases.

3 Trucks and Trains
The EIS allows for five fold increase in truck traffic and would more than double train traffic in and around the North Fork Valley, but makes no serious attempt at mitigating potential hazards and disruptions to the community. Across the West and throughout Appalachia I have wasted time waiting for coal trains to pass and have been nearly killed when coal trucks have driven me off the road. The EIS sacrifices the communities of the North Fork to coal production and BLM will have blood on its hands if a child is killed at

3 a train crossing or a coal truck sends a family car into a ditch.

4 I strongly urge you to recommend much smaller coal production that would decrease the need for increased truck and train traffic. If you do allow higher production, I urge you to require North Fork Valley mines to construct new loadouts to eliminate increased truck traffic and construct new train crossing upgrades and overpasses to reduce potential train accidents.

5 Water
Coal mining has potentially devastating impacts on water resources and the agricultural economy of the North Fork Valley depends on reliable water. To protect water resources, please include a lease stipulation on the Iron Point Tract requiring that a "State-approved water augmentation plan be in place prior to mining within one mile of the Terror Creek Reservoir, Canals or Collection Basin."

6 The Economy
Through this EIS, the BLM makes the same mistake that the federal Office of Surface Mining and numerous state regulatory agencies make when recommending leases or permits. Neither OSM, the state, nor the BLM is in the business of employing coal miners or allowing companies to mine coal. The BLM's role is to manage the nation's federal lands and resources to best benefit the entire country and not to favor one industry over another. BLM predicts that jobs from these two leases will only last for 5 to 8 years and does not take into account the permanent economic destruction the leases could cause. The North Fork Valley's long-term economic future is dependant on agriculture, tourism and retirement. All of these industries could be permanently impacted by increased coal production and may never recover long after the coal, and the coal jobs, have left.

7 I strongly urge you to withdraw this EIS and begin again with a new economic analysis of these leases that accounts for the long-term economic and environmental health of the entire North Fork Valley.

Sincerely,

Carolyn Johnson
Staff Director

MOUNTAIN COAL COMPANY L.L.C.
A Subsidiary of Arch Western Resources, LLC

West Elk Mine
PO Box 591
5174 Highway 133
Somerset, CO 81434
(970) 929-5815
Fax (970) 929-5595

November 2, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

RE: Comments on Draft North Fork Coal Environmental Impact Statement

Dear Mr. Jones:

Mountain Coal Company, L.L.C. (MCC) offers the following comments of the draft North Fork Coal Environmental Impact Statement (dEIS) for the Bureau of Land Management and the U.S. Forest Service to consider in preparation of the final Environmental Impact Statement.

CHAPTER 1 – PURPOSE AND NEED FOR ACTION

1. *Page 1-16, Section 1.9.7, West Elk Coal Mine*
   MCC proposes the following changes (in italics) to the second sentence of the first paragraph: "This mine is operated by Mountain Coal Company, *L.L.C.* (a subsidiary of Arch *Coal Inc.*) and is permitted with Colorado DMG *at 8.2 million tons per year*."

CHAPTER 3 – ENVIRONMENTAL ANALYSIS

3.1 AIR QUALITY/CLIMATE

2. *Page 3-3, Section 3.1.2.2, Ambient Air Quality Standards*
   The first paragraph states, "When a health-based primary standard does not protect public property or resources (for example, ensuring that dust concentrations are low enough to prevent damage to crops or soiling of buildings), a secondary standard was established which is more restrictive than the primary standard." This sentence should be removed. In review of Table 3.1-2, Ambient Air Quality Standards, there is only one secondary standard that exceeds the primary standard, and that is for sulfur dioxide. The sentence gives an example related to dust concentrations and no secondary standard for particulate matter is more stringent than the primary standard.

3. *Page 3-4, Table 3.1-3, Ambient Air Quality Standards*
   The table includes the "Proposed Fine Particulate Matter" standard as well as the "8-hour average Ozone" standard. While having been "proposed", the courts have remanded these

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standards back to EPA for clarification on why their actions are constitutional. There are no proposed standards at this time, and as such, should be removed from the text.

There are references to footnotes under the fine particulate matter standard, and the carbon monoxide standard (1 and 2); however, there are no corresponding footnotes on the table.

4

4. *Page 3-4, Last Paragraph*
This paragraph states "Primary and secondary standards have been established for particular matter that can be respired by humans. A number of published studies suggest that premature mortality, hospital admissions, and respiratory illnesses occur at concentrations below the PM10 standards. In 1997, EPA revised the particulate matter standards by adopting new standards for particles smaller than 2.5 micrometers (PM10). The PM10 standards are currently under development, and do not yet apply to any facilities." Only the first sentence is accurate, and the remainder of the paragraph should be eliminated, as discussed in comment #3 above.

5

5. *Page 3-21, Greenhouse Gas Emissions*
Greenhouse gases (i.e., methane and carbon dioxide) are not regulated "pollutants", nor is there a consensus that these gases are causing global warming. While the conclusion is that the emissions of these gases are minor, the entire section should be eliminated from the document. The U.S. Forest Service used to include an analysis of "global warming" in their permitting efforts in the Powder River Basin of Wyoming. After concluding numerous times that the activities did not contribute significantly to global warming, the USFS finally dropped the analyses. This logical approach should also be applied to this document.

6

6. *General Comment*
MCC believes that the emission inventory that was used to estimate impacts on the airshed is significantly overstated. However, it is important to note that even with the overstated emissions the conclusion was no significant impact.

3.2 TOPOGRAPHY/PHYSIOGRAPHY, 3.3 GEOLOGY, AND 3.5 SURFACE WATER HYDROLOGY

7

7. *General Comment*
It appears from the discussion in these three sections that Alternative D, which excludes longwall mining under Terror Creek, Hubbard Creek and the Canyonlands –Rifle Electric Transmission Line, is offered (and is part of the preferred alternative) because the D-Seam overburden in these areas is less than 500-feet, and because they are important resources/structures. The criteria for excluding these areas from mining should be made more clear in the discussion and presentation of alternatives, as there are a number of studies that show perennial streams, powerlines, natural gas lines, etc. can be undermined (sometimes with or without preliminary preparation work to the resources/structures) by longwall mining without any significant impact.

3.8 WETLANDS

8. *Page 3-126 and 127, Section 3.8.5, Mitigation and Monitoring*

The last sentence of this section states, "This measure *(delineation of wetland and other Waters of the U.S.)* would be effective in providing a means to determine which seeps, springs, and stockponds are affected by subsidence and what follow-up wetland mitigation measures might be required." This statement, in addition to other statements in this section, appear to suggest that potential wetland impacts caused by mining-induced subsidence would be regulated under Section 404 and would require mitigation. MCC met with the Southwestern Colorado Regulatory Office of the Sacramento District of the Army Corps of Engineers (ACOE) prior to permitting additional mining areas to address this issue. The ACOE indicated that wetland impacts as a consequence of subsidence would not be regulated under Section 404. The suggested mitigation goes to the contrary and an adjustment to the document is thus required.

3.12 NOISE

9. *Page 3-158, first paragraph on page*
The noise emission limits that apply at a point 25 feet from any industrial facility's property line are not listed as indicated.

10. *Page 3-164, Table 3.12-5, Assumed Coal Trains Used for Noise Calculations*
The word million has been left out of the production rates in the No-Action Alternative and Action Alternatives columns.

FIGURES

11. *Figure 2, Surface Ownership*
As a result of a land exchange MCC completed with the U.S. Forest Service in 1997, MCC now owns the surface in all of Section 21 and in approximately half of Section 22, Township 13 South, Range 90 West. The figure should be updated to reflect the current ownership. MCC is willing to work with the BLM and the USFS to provide this information.

12. *Figure 3, Historic Coal Mines and Federal Coal Lease Locations*
MCC's records indicated that one of the leases included for West Elk, C-44569, is actually D-44569. The map is missing Federal Coal Leases C-1362, COC-54558, and COC-56447. In addition, the map is missing the B-Seam mined by West Elk.

GENERAL

13. MCC believes that it is important to note that the North Fork Coal Environmental Impact Statement has been completed as a result of Bowie Resource Limited's and Oxbow Mining Inc.'s Lease By Application submittal and that the cumulative impacts evaluated in the dEIS that includes MCC relate to air quality, production, transportation, and to some extent

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socioeconomics. The specific effects, such as, subsidence, hydrology, wildlife, etc., of current and future mining at West Elk Mine are not effected by this EIS and should be stated so in the EIS.

MCC appreciates the BLM's and USFS's consideration of our comments. Please call if you have any questions.

Sincerely,

Christine E. Johnston
Environmental Engineer

cc: Gene DiClaudio
Wendell Koontz
Greg Schaefer
Phil Schmidt

LETTER 21

8-16-1999 1:35PM FROM ENG. WEST ELK MINE 970 9296858 P. 2

West Elk Mine, known as the Mt. Gunnison No. 1 mine,

The West Elk Mine portal facilities are located in the NW1/4, Section 16, T13S, R90W. The mine was originally developed in 1969 by ARCO Coal Company under a subsidiary known as the Mountain Coal Company. The mine was sold in 1992 to Arch Mineral (WEST ELK) Corporation, Inc.

The original mine was a room and pillar operation in the F coal seam, but a longwall system of operation was added in the B coal seam in 1991. In 1998, Mountain Coal Company shipped 5,900,000 tons of coal from the West Elk Mine. Projections indicate that production could be up to 7.3 million tons in the year 2000 and 8.2 million tons in the year 2005.

In 1991, after a company reorganization, the operating company was renamed Mountain Coal Company and the mine name changed to the West Elk Mine.

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Mountain Coal Company, L.L.C. continues to operate the West Elk Mine. While ownership entities have changed, ~~[illegible]~~ mine personnel and operations have generally remained stable.

FROM CHRISTENE, W. ELK

173

LETTER 22

"Kathy Welt" <Kathy_Welt@omi.oxbow.com> on 11/08/99 10:48:00 AM

To: "jerry_jones@co.blm.gov" <jerry_jones@co.blm.gov>
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: Elk Creek Lease Tract Change

Jerry,
Please consider the Elk Creek Lease tract changes submitted by fax In late August, and subsequently discussed with you and the Coal Working Group and others, as a component of Oxbow's comments on the draft EIS.

To reiterate, Oxbow would like to add portions of (or all of the following lots if unable to add per metes and bounds description) Lots 5, 11 & 15 of Section 5, totaling 104.98 acres. In addition, Oxbow has no plans to utilize and could delete the following described lands from the Elk Creek Lease tract S1/2 NE1/4 and the S1/2 NW1/4 of Section 12. The additional area would allow Oxbow to develop bleeder and gateroad entries from the main entries in a straight north-south direction along the predominate east lease boundary, rather than having to offset these entries more than 500 feet more to the west to avoid the odd shaped corner of Section 5 (described above) that had not been previously included. If this area is not added, any coal located in the 500 foot strip along the east boundary (resulting from the offset) will likely have to be bypassed.

1

Please contact me should you have any questions.

Kathy

LETTER 23

Oxbow Mining, Inc.
P.O. Box 535, 3737 Highway 133
Somerset, CO 81434
(970) 929-5122

November 03, 1999

Bureau of Land Management
2465 South Townsend Avenue
Montrose, Colorado 81401
Attn: Mr. Jerry Jones

Re: Comments on Draft North Fork Coal Environmental Impact Statement

Dear Mr. Jones:

Oxbow Mining, Inc. ("OMI") submits the following comments on the Draft North Fork Coal Environmental Impact Statement ("EIS"). In general, OMI believes that the Bureau of Land Management ("BLM") and U.S. Forest Service ("USFS") Interdisciplinary Team, and the third-party EIS preparer are to be commended for completing a thorough environmental analysis of the proposed actions and alternatives in a relatively short timeframe. The following comments are referenced to the corresponding section and page(s) of the Draft EIS document where the concern first appears. Please note that since discussion of a particular topic may appear in several locations in the Draft EIS document, comments or concerns noted for one section may be similarly applicable to related discussions in other sections of the document.

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Summary (pg S-4) – The facts that continued operations under existing approvals would involve some increase in production levels and that the No-Action Alternative would limit the life of the existing operations are critical to understanding the No-Action Alternative and the associated environmental consequences. OMI has been permitted as a 4.0 million ton per year operation (with DMG) for the past couple of years. Mountain Coal has been permitted at 8.2 million tons per year for the past few years, as well. These production levels are already approved and not a decision to be made from this EIS. The summary of Alternative A – No Action (Section S-2.1) should be expanded to provide this information.

3

Summary (pg S-5) - Alternative C, Multiple Seam Mining, is a viable option, however, the document does not indicate whether or not this alternative responds to either an applicant's proposal or an identified issue.

4

Summary (pg S-7) – Based on previous subsidence evaluations for longwall operations on the Oxbow properties, the statement that "There is a potential that mining subsidence could aggravate existing landslides...", is not entirely complete and accurate. These previous evaluations indicate that longwall subsidence may actually increase the stability of existing natural landslides and other potentially unstable surface features by creating subsidence troughs with

4 reduced slope angles which may "key" the potentially unstable mass into the slope. To provide a balanced perspective, both positive and negative impacts should be noted.

5 Summary (pg S-9) - The bulleted item relative to impacts of dewatering the D Coal Seam on flows in Hubbard Creek needs the addition of "affect" or "reduce" after "Dewatering of the D coal seam could...". In addition, this potential impact is prominently identified and discussed in several sections of the document and, in fact, forms part of the justification for the identified preferred alternative. Treatment, however, of this subject in Section 3.5.3.3 (pg 3-77) does not provide the information necessary to clearly understand the potential for impact to Hubbard Creek flows (discuss gaining/losing stream segments) or to clearly differentiate why similar impacts will not occur elsewhere (Elk Creek and Bear Creek). Given that potential subsidence impacts on streams appears to be one of the major environmental issues addressed, a more complete explanation is warranted.

6 Summary (pg S-15) – The statement that, "...the mining equipment at Oxbow possibly exceeds the state of Colorado noise emission limits,...", is incorrect. The only *equipment* at the mine site that *possibly* exceeded noise limits (per calculated estimates) was OMI's train loadout. As discussed below in OMI's comment regarding Section 3.12.4.3 (pg 3-170), a noise survey was recently completed by OMI and shows that the loadout actually operates well below the state noise limits. The general statement should be revised for clarity and to eliminate the incorrect and generalized reference to "mining equipment".

7 Chapter 1 (pg 1-8) – The discussion of the BLM's required landscape health assessment is somewhat contradictory. On the one hand, it notes that there is little potential for significant effects to the landscape because of the very limited surface disturbance. On the other hand, it reserves the option of modification of the proposed activities based on completion of the assessment and review, without explaining how this would occur. Any existing guidelines for considering landscape health effects can and should be incorporated in the appropriate Chapter 3 discussions. If this is not practical, the mechanism for incorporating any modifications (as currently reserved in the text) should be explained.

8 Chapter 1 (pg 1-14) - In sections 1.9.1 and 1.9.2 the name Colorado Westmoreland Coal Company should be corrected to "Colorado Westmoreland Inc.". The year that these operations were sold to Bowie was 1994 not 1998. This date should be corrected in the history appendix, as well.

9 Chapter 1 (pg 1-15) – In section 1.9.4, the mine fire in OMI's Sanborn Creek mine was detected by elevated levels of CO, not carbon dioxide. In addition, the second sentence infers that the mine was sealed and the entire mine flooded with water. This statement should be corrected to say that only the affected longwall panel area in the mine was flooded with water.

10 In section 1.9.5 the permitted throughput of the Terror Creek Coal loadout is 500,000, not 150,00 tons per year. Coal is hauled to this loadout from all three of the currently operating mines in the valley, not just OMI's mine. Most hauling

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is by OMI's own trucks, but may also be hauled by Savage Industries or other licensed haulers.

11

Chapter 1 (pgs 1-16 & 17) – In sections 1.9.7, 11 & 12, the following names should be corrected: Mountain Coal Company to Mountain Coal Company, LLC
Arch Minerals Company to Arch Coal, Inc.
Fire Mountain Ditch to Fire Mountain Canal
Steward Ditch to Stewart Ditch
Hotchkiss Ranch Company to Hotchkiss Ranches, Inc.

12

Chapter 2 (pg 2-5) – The BLM and USFS have stated that if another party (other than the applicants) were to be the successful bidders for the coal leases that the existing portals would likely be used to access the leased reserves. OMI believes that it is *not* likely that the Elk Creek lease reserves would be accessed through OMI's privately-held portals facilities, and coal reserves if another party was the successful bidder for the lease. Optional portal sites on Federal lands should be offered, still requiring the completion of a separate NEPA analysis.

13

Chapter 2 (pg 2-8) - Within the document there are inconsistencies in the annual production level shown for OMI's operations. In the Summary (pg S-5) it is shown as 4 to 6 million tons; in the description of alternatives (Chapter 2, No-Action Alternative, pg 2-8) it is shown as permitted with the Colorado DMG for 4 million tons per year; and in the description of alternatives (Chapter 2, Proposed Action Alternative, pg 2-14) it is shown as 4 to 6 million tons. Consistent figures should be used throughout the document and the variance in the figures explained where first presented.

14

Chapter 2 (pg 2-8) – As in OMI's comment for pg 1-15 above, the Terror Creek Coal loadout is permitted at 500,000 tons per year. Coal from OMI's mine as well as the other valley mines has been and will continue to be processed through this facility. Oxbow's trucks, as well as other haulers are used to transport coal to the loadout.

15

The statement that, "Oxbow handles about 150 to 190 acre-feet per year during mining." should be explained so that the uninformed reviewer does not incorrectly assume that OMI is actually using (consumptive use) this amount, plus the 6 to 7 acre-feet used for domestic supply. As OMI typically returns to the river almost double the amount that is pumped from the river (by capturing natural inflows and runoff from the mining sections), OMI's operations are actually a net contributor to the river.

16

Chapter 2 (pgs 2-24 through 2-28) – The rankings (Negligible/Low/Moderate/High) in Table 2-4 are understandably somewhat subjective, but the following rankings do not appear to be in line with the Environmental Consequences as discussed for the referenced issues in Chapter 3. From a general perspective these rankings would appear to be inflated to support selection of the Agency Preferred Alternative (refer to Summary, pg S-5, Table 2-4, and Chapter 3):

Direct Disturbance to Stream Channels (High)
Reduced Flows and Sedimentation (Moderate)
Subsidence (High)
Wetland Impacts (Moderate)

16

Chapter 3 (pg 3-1) – The discussion of "standard" reclamation and mitigation measures presented in Chapter 2 (pgs 2-18 through 2-23) and referenced in Chapter 3 is very brief and generalized. Additional details are not presented for each resource category in Chapter 3. Consideration of mitigating effects relative to environmental consequences and unavoidable adverse impacts appear to depend heavily on the standard terms, conditions, and stipulations presented in Appendices H, I, and J. While these mitigation provisions are referenced throughout the text, they are not directly addressed in the Chapter 3 analysis, making review and direct evaluation of the nature and effectiveness of mitigation difficult. Rather than providing full discussion of mitigation in the text or merely referencing mitigations as in the draft, document, perhaps brief listings or summaries of applicable terms, conditions, and stipulations under each resource category could be provided.

17

Chapter 3 (pg 3-6) – Table 3.1-2 should be corrected to PM2.5 from PM25 and the discussion below the table corrected to PM2.5 from PM10, or the entire PM2.5 discussion and table presentation eliminated since it is not a current nor required standard.

18

Chapter 3 (pg 3-8) – In section 3.1.2.3 the word god should be corrected to "good". Also, the Black Canyon of the Gunnison National Monument should be corrected to its new National Park status.

19

Chapter 3 (pg 3-8)– Section 3.1.2.6 refers to Federal emission standards for "large diesel mine equipment" but does not indicate whether or not these standards are applicable to the proposed operations. Also, similar to other Chapter 3 sections, the study area for evaluation of air quality impacts should be specified.

20

Chapter 3 (pg 3-13) – The air emissions analysis includes Mountain Coal's West Elk Expansion, which is a reasonably foreseeable future action, but is not a component of any of the alternatives being evaluated and may skew the analysis.

21

Chapter 3 (3-15) – Table 3.1-6 should be corrected to show two stacking tubes at 2.4 MM tons each (or 4.8 MM tons/yr. as permitted), five feeders into the reclaim tunnel at 960,000 tons each (or 4.8 MM tons /yr. as permitted), that the stacking tube stockpile is permitted at 4.8 MM tons/ year, and that the West Valley Fill is permitted for 1.98 acres.

22

Chapter 3 (pg 3-21) – There are significant inconsistencies between the text discussion of PM_{10} emissions for Bowie's operations on pg 3-21 and the tabular information for Bowie and Oxbow on Tables 3.1-7 and 3.1-8. Comparison of emission rates (both individual and total) for similar equipment/activities between the Bowie and Oxbow operations show the figures for Bowie to be significantly

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23 higher, contrary to the text discussions.

24 The discussion of "Greenhouse Gas Emissions" is not directly relevant to this analysis. The whole "global warming" issue is as much political science and supposition as actual scientific fact and, as such, inclusion of any related discussion in this document is inappropriate without background discussion of the basis and limitations of the "global warming" theory.

25 Chapter 3 (pg 3-21 through 3-33) –This analysis acknowledges the limitations of both the model input and modeling methods, but goes on to present a significant amount of data and conclusions. Reading between the lines, it appears that reasonable conclusions would be that; air emissions are and will be effectively controlled by both existing control and mitigation measures and compliance with applicable permit conditions; that prevailing winds would not generally transport mining-related emissions from the North Fork Valley far enough or in a direction where critical airsheds (West Elk Wilderness and Black Canyon National Park) would be adversely impacted; and that mining-related emissions would result in occasional, temporary haze or dust plumes that would be visible but would not present a health hazard or affect general visibility or air quality.

26 Chapter 3 (pg 3-61) – The statement that, "No effects to the Terror Creek Reservoir would occur because the leaks would not be offered." needs to be expanded or modified for clarity.

27 Chapter (pg 3-75 & 78) – The Fire Mountain Canal is repeated numerous times throughout the table, and again Stewart Ditch is misspelled as Steward Ditch.

28 Chapter 3 (pg 3-84) – Characterization of the Rollins Sandstone as a confined aquifer and the discussion of potential recharge mechanisms is probably not accurate based on available drilling and monitoring information from several of the mines in the area. Available information indicates that the Rollins Sandstone does contain ground water, but is localized in fracture zones, that the water quality is generally poor, and that permeability and transmissivity are low, with very limited ground water movement within the unit. This information leads to the conclusion that the Rollins Sandstone is not an aquifer and that it has very limited recharge potential.

29 Chapter 3 (pg 3-93) – The statement that baseline water quality data is not available from the Elk Creek Tract is not accurate, since such data has been collected for wells B-6 and H-10 and is included in Table 3.6-3.

30 Chapter 3 (pg 3-104) – The statements that, "The active Sanborn Creek Mine has been storing discharge mine water in sumps in the B and C coal seams since 1992." and "The B and C seams were dry during active mining." are contradictory. The second statement is not true. Also, the sumps were utilized to capture water for treatment to reduce TSS, not TDS as stated.

31 Chapter 3 (pg 3-105) – Trans-basin diversion is identified as a potential effect of subsidence due to geologic determination, and is briefly described on pg 3-107.

31 Given expressed concerns about water availability, additional explanation of the nature, extent, and limitations on trans-basin diversion should be provided.

32 Chapter 3 (pg 3-123 through 3-126) – Wetland occurrence in the area is very limited and surficial disturbance of wetlands (even without mitigation conditions/stipulations) would be negligible. The discussion of wetland occurrence and potential impacts gives an inaccurate picture of the very limited wetlands and associated impacts, portraying them as much larger and more significant than they actually are. The discussion is also inconsistent with the subsidence discussions; inferring that there is a high potential for impacts to wetlands wherever "...coal removal and caving", i.e. mining occurs. This is simply not true. This discussion and the ranking of wetland effects (Table 2-4) should be reviewed and revised, as appropriate, to accurately portray the nature and significance of this resource and the low potential for impact due to subsidence, particularly with deep overburden. OMI also questions the applicability of 404 permitting for potential subsidence affect (as such could not be construed as a "discharge" into waters of the U.S.) and is contrary to recent opinion of the local ACOE office.

33 The statement regarding potential critical habitat for the southwestern willow flycatcher on pg 3-126 indicates that all riparian and wetland areas in the study area represent potential habitat while the more detailed discussion on pgs 3-135 and 3-136 limits potential to specific areas. The statement on pg 3-126 should be revised for consistency.

34 Chapter 3 (pg 3-136) – Statement on likely occurrence of loggerhead shrike within study area appears to be somewhat at odds with description of preferred habitat (open areas). Given this discrepancy and the lack of confirming data, the statement on potential for occurrence should be reviewed and modified, as appropriate.

35 Chapter 3 (pg 3-149) – The figures for projected water use for the Oxbow operations are significantly higher than actually anticipated. Oxbow has already completed a water depletion evaluation and Section 7 Consultation with the USFWS based on anticipated maximum use and depletion from the North Fork of less than 100 acre-feet annually.

36 Chapter 3 (pg 3-153) – Oxbow already has an SPCC Plan in place in conjunction with their existing CDPS Discharge Permit and maintains ongoing compliance under this plan. In conjunction with the USFWS Section 7 Consultation referenced in the previous comment, the USFWS reviewed the "Windy Gap" requirements (Recovery Program) and determined that they are not applicable to Oxbow's ongoing operations since consumptive water use is less than 100 acre-feet.

37 Chapter 3 (pg 3-155) – The discussion of cultural resources is somewhat misleading in that it references a number of cultural resource surveys (ie: 16 surveys, pg 3-154) but appears to focus on the results of the largest and most intensive survey, which resulted in identification of several cultural resource sites. Most of the other surveys resulted in identification of few or no cultural resource

37 values and those resources identified were of limited importance, consisting of isolated artifacts or minor lithic scatters. In order to more accurately characterize the potential existence and significance of cultural resources in the absence of more extensive surveys it would seem appropriate to provide some discussion of typical patterns of both Native American and historical use (ie: generally focused on valley areas and proximity to water).

38 Chapter 3 (pg 3-158) – Under the discussion of Colorado Noise Emission Limits, there is a reference to noise emission limits at a point 25 feet from an industrial facility property line, but the following text does not provide the referenced noise limits.

39 Chapter 3 (pg 3-162) – Table 3.12.3 should be corrected to "Bear" Creek from Beaver Creek. In the discussion following the table, the statement is made that OMI's coal handling facilities possibly exceed Colorado noise limits. This statement is based on the assumption that measurements taken at Bowie could be applied to OMI's operations. A noise survey recently completed by OMI (submitted under separate cover and delivered by U.S. Mail) shows that OMI's facilities, including the train loadout, are below the state noise limits.

40 Chapter 3 (pg 3-164) – On Table 3.12-5, the listed production rate for the No-Action Alternative for Oxbow is incorrect. It should be 4.8 (or rounded to 5.0) million tons per year rather than 1.8 tons/year, as listed. In the discussion above the table, the number 10,500 should be corrected to 1,314.

41 Chapter 3 (pg 3-166) – The last bullet item on the page that states that "...there would be three times as many commuters for the "Action Alternatives..." appears to conflict with the socioeconomic discussions.

42 Chapter 3 (pg 3-170 through 178) – Again, there is significant reliance on calculated estimates based on measurements at the Bowie operation. In section 3.12.5.1 the discussion neglects to add the word "possibly", stating that the loadout actually exceeds state limits. This is simply incorrect and OMI requests that the actual measurements from the noise survey it recently contracted (and submitted under separate cover) be used to correct the discussions regarding OMI's facilities throughout this section.

43 Chapter 3 (pg 3-186) – The discussion of Production Limits references Appendix E, which addresses Mining Economics. While Appendix E provides a good overview of the economic factors affecting mine production levels, discussion of one key element, free market competition and its effect on both pricing and production levels, is missing.

Hopefully, these comments will be of value in identifying areas where the environmental

analysis can be strengthened as you proceed with preparation of the Final North Fork Coal EIS. OMI appreciated the opportunity to review and comment on the Draft document and looks forward to the publication of the Final.

Best regards,
Oxbow Mining, Inc.

Kathleen G. Welt

Kathleen G. Welt
Environmental Supervisor

Attachment: Noise Survey Letter Report
(under separate cover)

cc: Tom Anderson/Oxbow
Trish Diehl/Oxbow
Paul Fritzler/Oxbow
Jerry Nettleton/ Montgomery Watson
Walt Wright/Oxbow

LETTER 24

OXBOW MINING INC.

November 03, 1999

Bureau of Land Management
2465 South Townsend Avenue
Montrose, Colorado 81401
Attn: Mr. Jerry Jones

Re: Attachment to Comments on Draft North Fork Coal Environmental Impact Statement

Dear Mr. Jones:

1 Oxbow Mining, Inc. ("OMI") is submitting its comments by electronic-mail, however the enclosed hard copy attachment could not be forwarded in the same manner. As such, please include the following letter report with OMI's electronic comment letter.

Best regards,

Kathleen G. Welt

Kathleen G. Welt
Environmental Supervisor

3737 Hwy 133 • PO Box 535 • Somerset, Colorado 81434 USA
TEL (970) 929-5122 • FAX (970) 929-5177

LETTER 25

Council

Nov. 3, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Dear Jerry,

On behalf of the Board of Directors and members of the Western Slope Environmental Resource Council (WSERC), I am writing to convey our suggestions, concerns and comments regarding the North Fork Coal Leasing draft Environmental Impact Statement (dEIS).

WSERC is a grassroots environmental non-profit organization based in Paonia, Colo. We organized in 1977 and now have over 200 members, who mostly live in Delta County. Impacts of coal development are of great concern to our membership and we have been deeply involved in coal issues since our inception. WSERC members live adjacent to the project area, and use surface acreage for everything from irrigation water, to hunting and fishing, to camping and mountain biking. We are also greatly affected by off-site socio-economic impacts, ranging from train and truck traffic, to mine employment and impacts on non-mining economic sectors, to air, water and wildlife impact, to total cumulative annual coal production levels and impacts.

1 WSERC has participated in the previous NEPA process regarding both the proposed leases for this EIS, including letters and public hearing comments on EA scoping, draft, final and ROD/appeal stages and EIS scoping, public meetings and North Fork Coal Working Group informational (NFCWG) meetings. We would hereby like to incorporate by reference all our previous input. Finally, WSERC, its Board and members have participated extensively in the NFCWG meetings. Since we submitted many of our concerns as part of those events, we hereby incorporate by reference all scoping input resulting from these meetings and publications.

1. Scope of EIS, Cumulative Impacts Analysis and Reasonably Foreseeable Development

2 This is the first valley-wide analysis of development of federal coal reserves in the Paonia-Somerset coalfield in 15 years. In the intervening time, changes in markets, coal prices and technology have significantly changed the scale and types of impacts resulting from coal mining, thus rendering previous NEPA analysis outdated and inadequate. These previous NEPA actions are particularly inadequate and outdated, in that off-site impacts caused by the tremendous new scale of coal mining and coal transportation have never been disclosed or analyzed in a federal NEPA document.

3 WSERC expects continued pressure for coal development and expansion of local mines, beyond the currently proposed actions. As most of the fee reserves have been extinguished, almost all of those actions

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Box 1612, Paonia CO 81428 Phone & Fax 970/527-5387 wserc@rmi.net

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will involve primarily or solely federal surface or mineral reserves.[1] We believe it would violate NEPA to approve proposed actions one by one or even year by year without first conducting a broad, long term EIS that looks at both specific and cumulative impacts, including the very extensive off site impacts caused by leasing of federal coal reserves. This EIS should incorporate the site specific and cumulative impacts of all possible federal actions, from exploration and well pad applications to drill, to the currently proposed actions, to all reasonably foreseeable future leases and licenses.

Furthermore, since one of the proposed actions is an exploration license, it is entirely reasonable to assume that future lease applications and eventual development are highly likely in this area, as well as other areas bordering existing mines. In addition, since the life of mine periods of the new leases are relatively short (5-8 years), it is also reasonable to assume that there will be further exploration, leasing and development of the areas surrounding the proposed new leases in the immediate future. All of these probable future actions are directly related to and consequences of any proposed decision in this EIS to license exploration of federal coal reserves or lease for development of federal coal reserves.

For these and more reasons, we believe a comprehensive, long-term analysis is necessary in this EIS. In fact, this is what WSERC argued in the response to the 1998 EAs and in scoping for this document. And, we believe this is what the BLM promised when it undertook this EIS. (Please see 12/18/98 BLM news release, which reads: According to [BLM Regional Manager Allen] Belt the EIS will provide a single, comprehensive watershed-based analysis of coal mining activities in the North Fork Valley. "This EIS will provide for current and future development of public coal resources in the North Fork while protecting the environment and the quality of life in the North Fork Valley." In the news release Belt goes on to state, "We're hoping that the local community can come together with the coal companies and develop a common vision of what the North Fork should look like 10 years from now.")

The dEIS falls far short of this mark. Only the three currently proposed actions are considered; numerous reasonably foreseeable developments are arbitrarily excluded from the document; RFD scenarios are not explained or supported; socio-economic, political and market trends that directly affect our coal production are ignored; cumulative impacts disclosure and analysis are incomplete and inadequate; and since they are based on a faulty RFD scenario, disclosure and analysis of even site specific impacts of the proposed actions are also incomplete and inadequate. In summary, this is just continued segmentation of the required NEPA analysis for continued coal development in this region and a violation of the Act.

A. **Reasonably Foreseeable Development Scenarios**

In its scoping comments, WSERC highlighted the need for Reasonably Foreseeable Development (RFD) scenarios as a critical element of this EIS. The dEIS mentions that "Alternatives B, C and D analyze the development of the coal lease tracts under reasonably foreseeable scenarios." (dEIS at 2-3.) However, the assumptions and basis of the RFD's is never explained, referenced or supported.

In fact, nowhere in the document do we find any comprehensive analysis of present and future development and exploration scenarios, market trends, transportation restrictions, energy needs, air quality restrictions or other important factors that must go into the creation of an RFD. In fact the

[1] Three cases in point are (a) the current permitting action being organized by Mountain Coal Co., to build a new portal for its West Elk Mine, and to significantly increase the size its surface coal handling facilities (The Forest Service has issued comments on this application to the State Division of Minerals and Geology, yet nowhere in this even mentioned in the dEIS; (b) Oxbow's recent application for a BLM coal lease modification to its existing Sunbeam Creek mine; and (c) Mountain Coal Company's proposed and withdrawn 1998 application for an exploration license in the Sunset Trail area.

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dEIS does not even include a chart/graph of reasonably foreseeable development by mine and in combination (e.g. a stacked bar chart). Nor are there low, medium or high RFD scenarios, or any evaluation of possible future permitting actions in the Paonia-Somerset or neighboring coalfield.

Instead, the dEIS fails to take a broad view or incorporate cumulative impacts. To the contrary, the dEIS seems to infer that if these leases are not granted, that all coal mining in the region will cease when current reserves are exhausted.[1]. This leads to specious, untested and unsupported arguments, such as the conclusion that if leases are not granted, the mines will close, resulting in a permanent loss of 383 jobs and $22.8 million in payroll (see dEIS, S-18).

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This is only one of many possible outcomes of the proposed action (if no-action was selected). Denial of the proposed leases does not necessarily mean the end of mining in this region. Given the requirements of the Clean Air Act and demand thereby created for clean low-sulfur coal, the market for North Fork coal is strong. Coal mining will not cease. But it may shift around, with variable locations, mines, corporations, mining methods, transportation requirements, etc. New lease applications are likely to follow this EIS, *especially if no leases are granted this time*. If further federal clean air regulations come into effect, demand for our coal will increase and therefore future lease applications could increase.

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These issues are clearly within the scope of this EIS. Although much of this is "incomplete and unavailable information," NEPA regulations provide for this circumstance. 40 CFR 1500 regulations (at 1502.22) talk about "evaluating reasonably foreseeable significant adverse effects." At 1508.7, the regulations refer to evaluating "past present and reasonably foreseeable future actions."

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A good comparison and model is the Forest Service's treatment of the RFD in its 1993 Final Oil and Gas Leasing Environmental Impact Statement for the Grand Mesa, Uncompahgre and Gunnison National Forests. Like with oil and gas, the decision to grant lease rights on public lands conveys to the holder the right to explore for and to develop the coal resources found there. Neither the BLM nor the Forest Service will be able to control development, production rates, or many of the other consequences of this lease decision. Therefore, as stated in the Oil and Gas FEIS, "The Forest Service is required by the regulations at 36 CFR 228.102(c)(3 and 4), to 'project the type/amount of post-leasing activity that is reasonably foreseeable as a consequence of [the proposed decision]... and for each alternative, and analyze the reasonable foreseeable impacts of post-leasing activity' as part of the analysis." (1993 GMUG Oil and Gas FEIS at 1-19.)

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Thus, an RFD is required, and numerous sections of the EIS will have to be re-written based on this RFD. At a minimum, WSERC expects the RFD to include:

- Total available federal coal reserves (map and tonnage).
- Areas unsuitable to mining and/or surface occupancy.
- Federal reserves under lease, schedule for completion.
- Available fee reserves.
- Sterilized reserves.
- Limits on mining due to overburden, geologic problems, water or other issues.

[1] See page s-18: "Under the no action alternative, mining of reserves at existing mines would continue at current extraction rates until reserves are completed." All further impacts analysis of the no action alternative is based on this untested and unsupported assertion.

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- Exploration areas, proposed new explorations, reasonably foreseeable exploration areas.
- Reasonably foreseeable production levels by year for each of next 10-15 years; low, medium and high.
- Discussion of industry, technology and market trends and local site-specific factors used to establish each scenario.
- Potential of exceeding 19.8 million tons per year at any time in the foreseeable future, limits and restrictions on any future increases (e.g. Previous EA arbitrarily used a 12 MTY ceiling due to train bottlenecks, yet UP says with construction of additional siding it can exceed 20 MTY)?
- Reasonably foreseeable coal permitting and/or exploration licensing actions (to either federal, state or county jurisdictions) in the region.
- Future coal mining/expansion areas and long range forecasts.

An RFD would make for a more fair and realistic analysis of socio-economic, off-site impacts and several other sections of the EIS. (Please see further concerns below.)

B. Transportation Options

14 A critical factor affecting RFD is the ability to transport coal to market. As WSERC commented in its scoping comments, FACT Sheet and 4/99 newsletter (all of which have been submitted during scoping as part of the project record), we question if the Union Pacific Railroad can meet the projected production figures.

15 For the last two years, rail capacity has been the only factor limiting local coal production. In 1997, when valley wide production was 8.1 MTY, the railroad couldn't keep pace with Mountain Coal's production schedule, forcing the mine to idle workers. Last year, at 8.6 MTY valley-wide production, continuing rail problems forced Mountain Coal to again slow its output, putting the company below target.

16 Despite those limits, this EIS would double those production numbers. Oxbow has installed a new longwall, which, if not for the recent mine fire, would have increased its total output in 1999 from 1.6 to 4 MTY. Similarly, Bowie's plans, if approved, would increase its output to 5 MTY by 2001. Meanwhile, Mountain Coal has increased its production from 6 to 7.3 MTY, this year, and has plans to continue growing. Combined expansion of the three mines would put the valley at over 16 MTY in just two years, and almost 20 MTY in three to four years. Union Pacific is busy upgrading their line, but there is a real question if they can meet all three mines' expansion targets at once, let alone the cumulative total.

17 Yet the EIS has absolutely no real information or analysis of Union Pacific's capacity. Instead, the dEIS includes this completely worthless statement, " A representative from the Union Pacific Railroad also voiced his opinion that the existing railroad can handle increased tonnage from the mines in the North Fork Valley." (dEIS at 2-17). Moreover, the dEIS does not disclose or evaluate the actions the Railroad is taking to meet this new demand (See dEIS section 1.9.13 at dEIS 1-17; and dEIS Section 3.14.4.7 at dEIS 3-197). For example, Kevin Lanninger, the local maintenance supervisor for the North Fork Branch, has told the North Fork Coal Working Group that they plan to increase speeds by 10 to 15 miles per hour on the North Fork Branch, and may build a new siding that could block a primary access to Redlands Mesa. These are substantial actions that must be disclosed and analyzed in both the direct and cumulative impacts analysis (For example implications of increases in speed to public safety, noise, vibration impacts to private homes and possible changes that would cause to the dEIS noise study.)

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It is also unclear if UP's proposed actions will be adequate. Remember, this is more than double the tonnage ever hauled out of this valley, and we have had two straight years where production was limited by rail capacity. This problem also must be fully analyzed and disclosed in the EIS. The consequences of any failure to meet monthly or annual demand to haul coal would be substantial, and in fact have already been experienced by this community. Lack of rail service can cause temporary shutdowns, layoffs, loss of jobs, etc. It can also happen at extremely stressful times, such as Christmas. It is also unclear how the mines will be affected — could permitting of two new leases result in destabilizing activities and jobs at the existing and larger West Elk mine? West Elk mine managers have stated to WSERC that they are very worried about this possibility affecting their operations and future corporate funding (Private meeting 10/18/99).

The long-term situation is also important, for two reasons. First is that local residents and businesses have a right to know how much to expect train traffic to increase. Secondly, experts with the Department of Energy believe that virtually all underground mines in the U.S. will need to convert to the computerized longwall technology to stay competitive. At the same time, they predict this will exacerbate oversupply problems, meaning that the price of coal will keep dropping. The long-term forecast is that longwall mines will have to grow to 8 MTY to taken advantage of economies of scale. In other words, the pressure to expand local mines will likely continue well beyond currently forecasted 16 or 20 MTY.

What are the limits on transporting this much coal? It may be that we simply can't physically sustain three fully operational longwall mines in this valley. Simultaneous expansion by all three mines may ultimately squeeze one out of business, affecting many peoples' livelihoods. Thus the RFD may want to reflect the risks and tradeoffs associated with full development of two or three longwalls as part of its medium and high RFD scenarios.

2. Range of Alternatives

In its scoping comments, WSERC asked that EIS include a broad range of reasonable alternatives, and not a narrow range of very similar alternatives as occurred in the previous EAs on the proposed actions. For example, WSERC was deeply concerned that the 1998 EAs presented only two alternatives — to lease all requested lands, or none. We believe that this failed to provide a reasonable range of alternatives and analysis of their impacts as required by NEPA. Moreover, by giving us such a limited and stark set of choices, it did not give the public, affected landowners and local government adequate information to evaluate the potential consequences of the federal leasing action.

We thought that this would be cured by going to a full scale EIS. Instead, the dEIS actually presents an even narrower range of alternatives than did the 1998 EAs: All alternatives in the dEIS are weighted heavily towards maximizing coal production. In fact, the proposed alternative for the Iron Point tract is 290% greater than the preferred alternative in last year's EA. No alternative for the Iron Point Tract considers less than double last year's amount.

Coal Leased by Alternative	[redacted]	DEIS A	DEIS B	DEIS C	DEIS D.*
Iron Point Tract (BRL)	[redacted]	0	24	42.8	40.9
Elk Creek Tract (Oxbow)	[redacted]	0	21	23.1	23.1
Total	[redacted]	0	45	65.9	64

(in million tons) 0 not included in dEIS * preferred alternative

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(Incredulously, the No Action alternative listed or described in Appendix B. The no-action alternative is not a ZERO mining alternative, but rather just a continuation of existing leased reserves. Even in this alternative mining continues, and especially since mining at the West Elk mine is unaffected, this alternative should be fully described, including reserves, production figures and tonnage. Although the "no-action" alternative is discussed in Chapter 2 and elsewhere, it is often dismissed or portrayed in a negative light. The positive impacts of "no-action" to the environment should be discussed. See Bob Marshall Wilderness Alliance v. Hodel, 852 F2d 1223 (9th Cir. 1988), cert. Denied, 489 U.S. 1066 (1989). See also, 40 CFR 1502.14(2).)

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Without a valid range of alternatives the EIS is unable to compare the full range and scale of impacts of the proposed coal expansion or serve as the basis for a decision. See California v. Block, 690 F. 2d 753 (9th Cir. 1982). The dEIS should have included an Iron Point alternative with less than 24 million tons reserves, including an alternative that permanently bypassed the Terror Creek Ditch Company's irrigation facilities and collection basin (similar to the 1996 ROD).

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The lack of small scale mining alternatives for either and both leases is glaring. This could be cured by clarifying in Alternative A that any or all of the three proposed actions could be denied, thus it is possible for the federal decision maker to approve one lease only, or delay one lease until the other was finished. This should also be reflected in the RFD, possibly as part of the low RFD scenario.

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3. Roads and Wildlife Impacts

Section 3.9, Terrestrial Wildlife, lacks basic information and analysis, in particular for potential impacts of roads and recreation on wildlife. While the dEIS does calculate possible new road construction in the Iron Point Exploration lease, it does not evaluate mileage of road re-construction or upgrades for the exploration lease. Also, even though the dEIS predicts that as many as three new vent shafts or numerous other boreholes may be needed for operation of both the Iron Point and Elk Creek leases, the dEIS does not calculate surface road impacts that might result.[3] Furthermore, as mentioned above, the dEIS does not include all reasonably foreseeable developments, and the road impacts likely to occur from those actions.

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Therefore, the dEIS lacks required information on total new road mileage or road reconstruction. This must be corrected and then the new information must then be compared to existing road mileage figures, using both actual mileage and weighted road density coefficients. In addition, the analysis should then evaluate overall road impacts to habitat effectiveness and habitat capability for deer, elk, bear, lion and other species for each forest habitat prescription as defined in the GMUG Forest Plan Standards and Guidelines.[4] For an

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[3] In presentations to the North Fork Coal Working Group, representatives of each mine have indicated approximate vent and borehole locations. If this is known, then road mileage figures can be easily estimated. Failure to include these is arbitrary and capricious, especially given the weight WSERC afforded this issue in our scoping comments.

[4] To restate from WSERC's 5/99 scoping comments on this EIS: Surface and Road Impacts:

"All planned and reasonably foreseeable exploration and surface impacts should be included in the EIS. The Reasonably Foreseeable Development scenarios should assume extensive exploration activities on both the proposed leases and adjacent lands. Unplanned recreation systems often follow planned road projects such as those contemplated in the currently proposed or foreseeable exploration and development actions. This is a major potential consequence of these leases.

The EIS should look at exploration impacts to existing surface uses, livestock permittees, roads, recreation and hunting season use, and impacts to wildlife, guided outfitting, hunting experience, and hunting-related businesses. The EIS should analyze site specific and cumulative impacts of road building, upgrades or reconstruction in light of existing road densities (very high near the Iron Point and Elk Creek Tracts) traffic patterns (for example, what are the impacts of unintentionally creating a through route linking Garvin Mesa to the Stevens Gulch Road, or Hubbard or Elk Creek Canyon routes) and wildlife impacts

(Footnote continued on next page)

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example of how this has previously done for coal projects on the Paonia District, please also see the 1996 Environmental Assessment for Mountain Coal Company's Proposed Coal Exploration Plan, or the 1997 Stevens Gulch SEIS.

Road reclamation stipulations must be clarified and spelled out in the lease stipulations. New roads should be required to be fully closed to all motor vehicles, fully obliterated, culverts pulled, returned to slope and contour, and administratively posted closed. Success of closure should be monitored for 10 years, or until vegetation has retaken the travelway, and the applicant must be required to restore the road closure as often as necessary to ensure full compliance. All crossings with the Powerline road must be obliterated or gated and locked. Upgraded roads must be closed to public use while being used by the applicant, and locked gates and signage must be in place. Once no longer needed, upgraded roads must be closed or returned to their original condition. All crossings with the Powerline road must be obliterated or gated and locked.

(road and motorized trail densities, big game decreasing hunting success while increasing game damage to private property).

Exploration activity generally result in extensive road building, which is far and away the most significant resource impact to have seen of all mine activities in the Paonia—Somerset Coalfield. For instance, the *1996 Environmental Assessment for Mountain Coal Company's Proposed Coal Exploration Plan For Drill Sites AA, BB, CC, DD, EE, Y, Z, GG, Q, and R-Alt* found 70 miles of existing coal exploration roads and ATV trails within 29 square miles, or 2.4 miles of roads per square mile of area. The EA also stated that these coal exploration roads are creating access to new travel areas and resulting in expanded intensive use of an ever-growing ATV road/trail network. Due to the large volumes and increasing use of exploration roads, the finest effects analysis area considered in the Mountain Coal EA was found to be already in violation of Forest Plan guidelines for full elk habitat effectiveness (the rating was 30%, which is 25% below Forest Plan guidelines), and was at the Forest Plan's minimum 40% level for elk summer habitat. In addition to elk vulnerability, the EA cited major concerns for black bear, Abert's squirrel, willow flycatcher, other birds, small mammals and amphibians.

The Mountain Coal EA is relevant because it is for a similar type coal mine (longwall) in the same coalfield with the same environmental and socio-economic conditions as the proposed actions. Similar levels of exploration and mining impacts are highly likely on the proposed Elk Creek and Iron Point Tracts over the life of the lease. This could have major impacts on the surrounding area and resources. For instance, just a few miles upstream of the proposed lease on Hubbard Creek, WSRAC recently conducted field surveys of road and ATV trail densities, and found them to be in violation of standards set in the Forest Service's 1996 Record of Decision for the Stevens Gulch Road and Related Timber Sales (see WSRAC's 1997 report to the Paonia District Ranger in USFS files). Based on our analysis, the Forest Service is now spending thousands of dollars to close and obliterate roads and motorized trails to improve wildlife habitat. Allowing new exploration roads and [illegible] decision may defeat the purpose of these expenditures. Moreover, this apparent problem is another indication that [illegible] roads would likely have significant impacts to wildlife in the project area.

A portion of the proposed lease surface is restricted by the Forest Service to designated routes only in order to protect wildlife habitat. Federal agencies must disclose potential exploration impacts and set stipulations on use of this area prior to leasing. Would these restrictions be waived for the leases, regardless of impacts on wildlife, or would the leases be barred from constructing new roads or well pads in these areas? Some of the designated routes in the lease area are ATV trails maintained at less than 40 inches width. (Some of these trails have recently been funded for improvements by the State Trails Fund as part of a cooperative project between the Forest Service and local user groups and grazing permittees). Would leases be allowed to upgrade these ATV routes or build new roads for exploration purposes, and how would that affect the existing recreation system, recreation areas and travel management restrictions, not to mention the expenditure of state trail moneys and matching local funds?

The EIS must analyze existing road densities and use and compare these to potential impacts on wildlife habitat and recreation from exploration in the lease area, including reasonably foreseeable low, moderate and high development scenarios. We have enough experience from nearby leases in the Paonia—Somerset coalfield to develop these scenarios. The EIS should also set no surface occupancy stipulations on all areas in the lease that currently have restricted travel designations and should require mitigation to address any potential degradation of wildlife habitat that could occur as a result of exploration activities. The EIS should not assume that current road closure methods would be effective or achieve intended results. (Please see WSRAC's comments on the Stevens Gulch Road and Related Timber Sales SEIS, 1997 and the Sheep Flats Timber Sale SEIS, 1998 in USFS files.) Full obliteration, reclamation, monitoring and enforcement are necessary."

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WORK. Progress with the map in Figure 25. Elk calving is highly likely in the project area. This is a protected wildlife resource under the GMUG Forest Plan Standards and Guidelines. Moreover, [illegible] are excluded from the map not because it is known not to be a calving/production area, but only because it has never been surveyed for elk production. Therefore, it is arbitrary and capricious to exclude this area without doing a survey to verify elk calving use. Similarly, the issue of deer fawning grounds is completely ignored in the DEIS. However, these deer herds in locations between their summer and winter ranges, and these deer populations are of critical concern in Colorado, it is highly likely the project, and its many new roads associated with the project, will impact deer fawning grounds. Therefore, this issue must be included in the above-mentioned survey and in the dEIS.

4. Section 3.12.2 Noise Regulation And Guidelines

Colorado Regulation 25-12 was used but not used for measuring sound of trains. Measurements should be 25 feet from right of way 100 feet from center of track. Not to exceed 90dBA –90dBA daytime L-max, 70-75dBA nighttime L-max not L-eq.

The EIS's use of guidelines for determining the impacts of noise is very confusing. Sometimes it is FTA sometimes FHWA and sometimes Colorado.

The FHWA and FTA are primarily guidelines for highway traffic and mass transit systems. The FTA Transit Noise and Vibration Impact Assessment does provide guidance for measuring transit noise impacts. Even though it is the better manual to use, many of the [illegible] could be used. The EIS uses Leq and SEL.

The EIS uses Leq (normal averaging method over 1 hour) and Ldn (averaging over 24 hours), which is used to measure highway traffic noise impacts. Ldn is the same as Leq 24 hours or so, where the noise is fairly constant. Using these descriptors in the EIS is misleading and inappropriate. This is no consolation for people disturbed by noise of passing trains. The train noise, for any period of duration, or number of trains, at each point is generally averaged out over the hour or over a 24-hour period. It can be higher for the duration of one train but [illegible] over 1 hour or 24 hours for the [illegible]. Thus a relatively misleading, Federal Transit Administration (FTA) [illegible] (American Public Transit Assoc.) guidelines are based on L-max during a vehicle pass-by". L-max or SEL should be used for applying the standards or acceptable noise levels. SEL is sound exposure level. It takes into account duration as well as maximum sound level. It describes a receiver's cumulative noise exposure from a single noise event. In the FTA book SEL is used as the primary descriptor for the measurement of transit-vehicle noise emissions. No mention of these descriptors was found in the EIS.

The EIS uses FHWA limit of 67 dBA L-eq designed for vehicle traffic noise to analyze all noise. There are other standards. The EPA states that 55 dBA L-dn or less is "....requisite to protect public health and welfare with an adequate margin of safety." Colo. regulation for residential areas is 55 dBA L-max for daytime and 50dBA L-max nighttime. There is no mention of FRA standards. They are quite high, but many of our noise levels at L-max or SEL measured @ 100 from center of tracks are higher than the railroad allows for themselves. Why weren't these standards used?

The methods of collecting data for the EIS are questionable and objectionable. The sampling of field measured noise levels was too narrow. An accurate picture of noise levels cannot be made one reading 30 seconds or 3 minutes long. Every acoustical consultant we asked, stated that they needed a minimum of several different weighing readings to compose an accurate picture of noise impact.

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Tables show that daytime and nighttime train noises were exactly the same. All train noises are different differences in engineers blowing train horns, differences in locomotives, differences in speed, differences in weather conditions. That is why a longer sampling over a longer period of time is required.

Section 3.12.3 Equipment used for measuring sound was set on slow
This is fine for baseline measurements. But for train pass-bys it should be set on fast. Slow averages out the high sound levels and does not measure them accurately.

The EIS made conclusive statements based on very little information. Phase I had 5 monitors. Each monitor had 2 locations (night and day) where sound could be measured. At each location, using the highest reading of the three. Each receiver had 4 train readings (one each night and day) out of the 20 readings, only [illegible] and 15 were measured. There was no nighttime train reading for Phase II. The EIS nevertheless states that the earth [illegible] BBA Laboratories, based on Hendricks [illegible] two out of the three readings [illegible] was that readings were [illegible] well.

[illegible] not correct. [illegible] shown in the report.

The [illegible] "51 to 60 dBA noise level would be clearly audible during quiet [illegible] people [illegible] would not be expected to disrupt sleep or normal speech". The studies contradict this... "subjected to 45 decibels of noise, the average person cannot sleep." Even though people say they get used to the trains, the fact is the human ear never closes, and the human body reacts to the noise energy acoustically with fight or flight responses even during sleep. Another example of inaccurate statements is found on page 3-179 "The noise from train horns is immediately in front of the train."

The methodology is not clear and terminology is not defined, i.e. L-25, L-50, L-90 in various tables. Colo. regulations are in L-max, but were used in the tables compared to L-eq (an hourly average). The dEIS does not compare apples to apples. Also Colo. regulations require measurements be taken 25' from source of noise or train right of way which is 100' from center of track. Comparisons were made from various distances. See table 3.12-10. The categories are not defined. Are they L-max or L-eq? If the noise readings are guesses they should be labeled as such.

There were 3 days of readings. What was the weather on the 25th? Was that the day or night it was raining? What settings were used on the meter?

The last paragraph on page 3-172 is confusing. What is a 30-second L-eq? Would it be L-max? What does "off the chart" mean?

Table 3.12-5 doesn't appear to be correct and later tables I believe are based on this date.

consideration in noise impacts from fans, conveyors, coal trucks and locomotives.

is inadequate. It is based on 1995 ADT figures. Bowie mine was not even operating in 1995. The 1998 figures are available. Why weren't they used? 1999 measurements have been taken in the area. Better explanations and definitions are needed. Table 3.12-8, were actual counts taken for one truck only? How was the L-max used to calculate the L-eq and how was it calculated for the [illegible] paragraph in section reads that for no-action 65/61 dBA L-eq at 100 ft/200 ft for no significant impact. The table however says 65/60. No explanation is made for the [illegible] does not show significant impact. Plus the L-dn in both cases is above FHWA 67 dBA criteria. Also, in the noise analysis for the mine, I would like the L-eq checked for the proposed actions. Currently, which includes increasing coal trucks per hour from 15 to 40.75 would raise the L-eq substantially.

One critical missing factor in the noise and transportation analyses is the impact of railroad noise and vibration on nearby structures. The dEIS wholly ignores the question of whether increased speeds and train frequency will increase low frequency noise and vibrations, and what damages this may cause. Already we have reports of increased damages to house foundations, floors and walls as a result of increased trains and train speeds.[1] If the railroad is already in violation of Colorado noise standards and this project will increase the level and frequency of those violations, then we question if the lease expansions are permissible without first resolving this issue. Also, we believe the public has a right to know who is responsible for damages caused by this decision and how to get restitution.

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5. Transportation

Given the fundamental impact increased coal-related traffic will have on our community, WSERC believes this may be the most important issue in the dEIS. We would like to point out some very critical flaws in the current analysis.

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A. **Railroad Upgrades:** As mentioned above, Union Pacific Railroad is making numerous track upgrades, and hopes that as a result of these improvements that it can increase average train speed from 10 mph to 20-25 mph or greater in non-urban locations. UP is making these changes solely to accommodate increased coal production contemplated in the proposed actions, thus this is a direct impact of this decision. However, the dEIS inexplicably fails to disclose this fact, or include it in any of their analysis or background studies, such as noise. This will significantly affect every aspect of the transportation, noise, safety and access analysis. For example, increased train speeds may shorten waiting times at crossings, but would likely worsen the impacts of a train-car accident and may significantly increase the likelihood of fatal accidents, as well as noise and vibration damage. As a result, these entire sections of the dEIS and all the supporting studies and analysis must be revised.

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As part of UP's upgrades, they are also apparently considering a new siding along Hwy 92 at Paine's Siding that could potentially block a primary access to Redlands Mesa. This is not disclosed or analyzed in the dEIS, and must be included, at least in the RFD. (Please see WSERC's scoping

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[1] WSERC member John English reports that vibration and noise from increased railroad traffic is causing damage to his house, located at 324 Oak Ave in Paonia, about 75 yards from the tracks: "Vibration from the train has cracked my house foundation causing it to settle unevenly, and damaging walls and the floors. When the train goes by, I can feel the whole house shake and rattle. This occurs at no other time. Increased train frequency seems to be worsening the problem, and the vibrations are noticeably greater at higher train speeds." (Personal Communication, John English, 11/2/99)

56 comments and note that we expressly asked that this type of information be collected and included in the dEIS.).

57 As part of the proposed new train loadout at BRL #2 mine, another siding may be made available at the old Bowie #1 loadout. This also will affect railroad service and should be included in the dEIS. In addition, the new loadout recently proposed for BRL #2 should be included in the dEIS analysis, including affected acreage, blockages of old Hwy 133, access issues, and impacts to the school bus routes, etc.

58 B. Private crossings: According to analysis of the NFCWG Transportation Subcommittee there are at least 50 private railroad crossings, and that these may pose the most significant danger the county faces for increased number and seriousness of accidents. Many of these crossing also apparently violate permit conditions, have visibility, roughness and other safety problems. Compounding that fact, railroad engineers are not required to signal when approaching these crossings.

59 This is a potentially devastating oversight of the dEIS: a full analysis and mitigation package must be developed. It is critically important that landowners understand the increased risk they may face as a result of increase coal production from the proposed decisions. Mitigations we suggest include notifying each landowner or user of a private crossing of the increase train traffic and speeds, and of the obligations they have to maintain a safe crossing. We also recommend that education efforts be made for agricultural workers using private crossings, and that these efforts be bi-lingual and reach out to the migrant worker community.

60 C. Public Crossings: The dEIS fails to inventory public rail crossings, existing warning mechanisms, safety concerns, possible upgrades, costs of upgrades and timeframes for securing funding and construction. The NFCWG has diligently tried to identify the local community's concerns over these issues, and interviewed local emergency service providers, school bus drivers, town managers, the County Sheriff and concerned citizens. This has resulted in criteria for evaluating crossings, proposed upgrades, education projects and other mitigations, and a list of priorities that the local community believes is necessary at both current production levels and at projected expanded production levels. This list is being submitted by the NFCWG, and draft version is attached to this comment letter.

61 Another major oversight in the dEIS is the failure to adequately disclose, analyze or mitigate for the impacts of train-caused congestion and blockages of Hwy 50 in Delta, as well as the five other major crossings in town. Trains crossing Hwy 50 regularly back up traffic four or five blocks in all directions, causing major congestion, pollution and traffic problems. This may have substantial impacts to Delta's main street businesses, as well as emergency vehicle access across town. Again, the NFCWG has worked with the City of Delta to identify potential solutions to this problem including relocating train corridor, overpasses and a traffic study. Although on a smaller scale, the towns of Paonia and Hotchkiss face similar problems and deserve similar attention.

62 The potential number and cost of railroad upgrades and mitigations is enormous, perhaps beyond our ability to fund no matter how well our community works together. WSERC believes that the EIS should include appendixes with a crossings inventory, both public and private; a description of each crossing's current warning device; safety concerns as rated against the NFCWG's criteria; possible upgrades, a budget and timeframe for construction. This list should include both short-term improvements, such as warning lights and gates, and long-term improvements such as re-routing the railroad through Delta.

63 Should a final MOA be developed among all the coal mines regarding a community–based effort to

63

fund railroad crossing upgrades, the EIS must analyze the viability of this proposal and its chances of achieving success in a timely manner.

64

The existing discussion of transportation alternatives and mitigations is too weak. The coal mines and BLM are proposing what amounts to a 1,000% increase in coal production and transportation in one decade (from under 2 MTY in 1991 to almost 20 MTY in 2001). However, we are a county without a single overpass or underpass, and well over 150 private and public rail crossings. The rail bisects every major transportation corridor in the county, and most of our urban areas. Derailments or accidents could block off whole regions of the county, cutting off access to emergency services to large percentages of our population. As discussed in public meetings and even mentioned in the dEIS, communication systems, emergency services and transportation infrastructure are not in place to handle this volume of coal train traffic. To exacerbate the problem, the cumulative cost of mitigating these impacts runs to the tens, if not hundreds of millions of dollars.

Based on this overwhelming cost, and the very real and high possibility that failure to mitigate these impacts will start to result in increasing number of severe to fatal accidents and loss of property, the dEIS and federal decision makers must analyze whether or not the proposed projects should be denied due to a lack of infrastructure. Any project approval must be justified in terms of these issues.

65

D. Trucking: With respect to truck transportation, the dEIS analyses are performed using averaged data and fail to include information on peak loading of the system. This is of particular importance when extrapolations of system performance under a 420 percent increase in load will be attempted. Further, implying that the accident rate could decrease by the introduction of trained truck drivers, adherance to the speed limit, and increased public awareness is not only disingenuous but insulting to the reader and to Savage industries, the current operator of the truck fleet. As stated by Mr. Brent Hellecksen in the Oct. 14th public hearings, for that mitigation to be available, Savage must currently be hiring only untrained drivers, who routinely break the law, and the public must have no awareness of the transportation of coal on the state highway.

66

Pg. 3-195: The statements in Sec. 3.14.4.1 are false: denying the Iron Point lease would eliminate BRL's proposed 978 trucks per day after the BRL fee reserves are exhausted. In Sec. 3.14.4.3: The introduction of higher capacity trucks will not result in a 38 percent decrease in ADT. Rather, it will result in a 260 percent increase as opposed to a 420 percent increase.

67

The proposed volume of truck traffic is unacceptably high, and will surely result in fatal or serious accidents. Unless a new train loadout facility is established to eliminate trucking, the Iron Point lease should be denied on the basis of inadequate infrastructure and creation of an unacceptable hazard to local residents and community.

68

6. Water Rights Issues:

Proposed lease boundaries (either current or recent) for the proposed Iron Point Tract would cross under facilities of the Terror Ditch and Reservoir Company. Under Colorado Water Law and the Colorado Constitution, this ditch system, with extremely senior agricultural and domestic water property rights, should be off limits to any mine impacts or risk of mine impacts. Not only is water private property and thus protected under the Constitution, but it is also critical to life in this region. Coal mining will likely be over in 50 years or less. Agriculture, as long as we protect the water, should remain.

69

WSERC's preference is that the Terror Ditch reservoir, main canals, feeder ditches and drainage be designated unsuitable for coal extraction. This is the easternmost system on the northern half of the Valley, and even if excluded from mining, that still leaves a vast surplus of available coal in the area without water conflicts. In addition, BRL core samples, they tell us, indicate low economic viability of the coal in this area due to geologic intrusions. In contrast, the value of the water is extremely high for orchards, vineyards, farms, ranches and residences on Garvin Mesa. Indeed the quality of life and property values on the mesa would plummet if anything untoward happened. Thus we see a very strong potential for unsuitability designation to eliminate major community and private property conflicts without significant losses to the coal industry or federal treasury.

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If the Terror Ditch system is not designated unsuitable, a cost benefit analysis of the above factors should be conducted to allow the community to determine the trade-offs involved in allowing mining there.

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Secondly, if the Terror Ditch system is not designated unsuitable then the EIS should analyze potential impacts from subsidence or other events that could temporarily or permanently reduce or interrupt water deliveries. Given the system's water rights priority date, and the precedent set with other coal mines in the Valley, if the system area is to be included in the lease, a water augmentation plan must be required prior to mine construction. There must be full discussion of the environmental, social and economic impacts of such a plan. There is no surplus or unclaimed water available in the area that we are aware of. Thus a water augmentation plan, if possible at all, may dry up agricultural lands elsewhere or affect instream flows on public land. Similarly, there should be mitigation required to prevent damage to the Terror Reservoir, impacts that would occur if the reservoir breached, liability for damages, or liability for repairs and reconstruction.

72

Terror Ditch has operated for more than a century in a responsible and sustained manner. This agricultural economy is the future of our area and should be maintained despite the intrusion of the coal mine. An analysis of the trade-offs would be best revealed through use of alternatives that prohibit mining-related impacts to the Terror Ditch system. We would like to remind you that this recommendation was also included in our scoping comments to the EA: " No mining should be allowed underneath ditch and creek beds that carry privately-owned irrigation water without adequate mitigation measures, including a state-approved water augmentation plan, such as the one established for the Mt. Coal operations on the south side of the North Fork River. Similarly, we recommend inclusion of alternatives with boundaries that include ditch and natural water courses." This concern was also included in our comments on the ROD.

73

Recreational acts of vandalism to the Terror system should be disclosed in the EIS. This ditch has been in existence for 100 years, and never vandalized. Yet, after water owners stood up for their rights in 1998 to protect themselves from BRL mine proposals, they found their reservoir empty and damaged the next spring. How many agricultural operations could be impacted by loss of water, storage or delivery systems? This is a major example of why federal water protections must be in place prior to leasing.

74

7. Socioeconomic Comments

On this issue, we have to be blunt. The socioeconomic analysis is an insult to the public, falling appallingly short of presenting a fair and objective analysis of potential impacts created by increased coal mining in the North Fork valley. The main problems are: a decidedly pro-coal bias, in terms of the content covered and models used and an inconsistent and confusing manner of presenting the data collected. An overwhelming theme persists throughout this section, that increased coal mining has positive impacts to the community and economy and decreased coal mining will only have negative impacts. This scenario is

74

inaccurate, misleading and serves to promote a single interest—that of the coal mine companies who wish to stay in business in the North Fork valley.

75

An economic analysis of a natural resource-based industry, like coal mining in the North Fork, and its impacts on the local community should use the tools of natural resource economics such as non-market valuation, a full disclosure of the externalities created by coal mining and contingency valuation. Instead, the draft EIS uses the outmoded tools of an empirical economist, making the assumption that coal mining is the base of the local economy and the engine driving local development. This perspective ignores the potential value of preserving local landscapes, quiet nights and community safety in attracting the emerging, non-extractive economic sectors to the area—i.e. retirement communities and the self-employed.

76

The socioeconomic section also simply fails to illustrate a current description of economic vitality in local communities and the extent to which coal mines are contributing to that. It should be recognized that the instability of the mining industry can create sluggish economies as local business owners are afraid to invest in improvements in fear of a mine shutdown, lending institutions are conservative in fear of layoffs and residents don't put down roots or make improvements to property. So what's the situation in Delta County? The mines are booming now — is the economic situation stable as a result, in spite of, or not at all?

Since almost every section of the socioeconomic analysis needs improving, specific comments and recommendations follow, using section numbers for reference.

77

3.15.1 *Study areas* The study areas identified are inappropriate and inconsistently used. The primary study area would more sensibly be the North Fork Valley, while the secondary area could be Delta County and the tertiary area regional. Including statistics for Gunnison County is in many cases confusing and useless, in terms of assessing the impacts to the *local* community.

78

3.15.2 *Existing conditions* In general, the description of existing conditions is very shallow. The reader is left without a clear picture of the importance of the coal industry or the reality of impacts within any kind of context.

79

3.15.2.1 *Population* This section should answer:

- What is driving the current and projected population increases in Delta County? (see comments on 3.15.2.4)

80

3.15.2.2 *Housing* This section should answer:

- What percentage of homes in Delta County are owned by coal mine employees?
- What percentage of coal mine employees own homes? rent?
- How many mine employees, especially upper management, live outside of the study area? why?

81

3.15.2.3 *Demographic Characteristics* This section should include:

- Racial/ethnic makeup of coal mine employees
- Percent of each age cohort employed at mines (ie. 9% of the coal mine work force is aged 45 and older, etc.)

82

3.15.2.4 *Employment and Economic Conditions*

The use of unemployment rates here seems to indicate that a high rate of unemployment is a problem. It should be noted here that unemployment rates are not necessarily an accurate reflection of the

local economy's vitality. Often rates are high because of a high percentage of retirees or other in-migrants that bring financial resources with them.

This section should include:

- Description of unemployed sector (what percent are retirees, farmers, former coal mine workers, etc.)

By averaging employment and migration data since 1980, this section concludes that when "Delta County loses jobs, local population growth tends to slow or decline." If the data had been trended, and compared to employment by sector, it would be apparent that in the 90s people have migrated into the this area for lifestyle reasons.

82

This section should include:

- a trended, sector analysis as described above

Impacts of increased production rate on labor force are obscured.

This section should include:

- a description of the amount of coal produced per worker over time

The number of local hires should be included here. Many coal mine employees came to the area following a lay-off in eastern U.S. mines or were recruited from within a company.

This section should include:

- number of mine workers who moved here specifically for coal mine employment

3.15.2.5 *Income*

Income in rural areas is often lower because residents accept lower incomes in exchange for the amenities such as scenery, low crime rate and recreational opportunities. This is important to include, otherwise it would appear that the only residents who are thriving are the mine employees.

Also, how does the number of dependents for coal mine workers compare to other employees in the county?

High wages should not be the only relevant economic variable in the area of income.

83

This section should include:

- data on stability and tenure of employment

3.15.2.6 *Community and Public Services*

For every category identified in this section— county governance, municipal governance, education , ambulance, fire protection, law enforcement, water and sewer, hospital and medical, electrical utilities, social services and roads— baseline capacity information needs to be quantified, use trends established, and threshold and financing
(expenditures and revenues) implications addressed. For the public to understand the true impacts, the EIS must report on these.

84

For example, this section should answer:

- Who uses social services? which services? when? How do rates of domestic violence, child abuse, teen pregnancy, drug and alcohol abuse, use of food stamps, etc. compare to other counties in the state and nation? To what extent does the mining workforce demand these services?

84

- To what extent do hospital and medical services rely on mine employees for business?

3.15.2.7 *Fiscal Conditions*

In general the presentation of information on fiscal conditions is extremely confusing. Many statistics are presented but they are not placed in context.

85

This section should include:

- a clear explanation or chart showing the total amount of tax money (and its source) that has come back to local communities over a timeframe of 15 years
- a clear explanation or chart showing the total amount of tax money (and its source) that is projected to come back to the local communities during the life of the leases
- a description of how energy impact dollars have been used in this area in the past and the extent to which this community would qualify for some of the 12 million available statewide

3.15.2.8 *Recreation*

This section does not address recreation but only tourism and barely even scratches the surface in terms of characterizing that.

86

This section should include:

- a full description of the recreational opportunities in the area
- a description and economic analysis of the businesses that rely on access to recreational opportunities
- a definition of travel spending

3.15.2.9 *Social Values*

This section appears to be comprised of broad speculations that have no relationship to any type of recent research or data collection and no quantification.

It is not valid to state that, "it is generally believed that newer residents are less supportive of traditional rural area natural resource activities, includes ranching, farming, logging and mining" without a sociological survey to back this up. Saying that "a number of primary study residents tend to value the economic opportunity represented by the North Fork mining activity," sheds no light on the actual number of people who value mining.

Also, this section states that it is only the urban refugees who are opposed to the impacts created by mining. These statements represent a decidedly pro-coal bias and inaccurately divide the community into either pro-coal or anti-coal. In reality, the community is not so homogenous. There are farmers and ranchers concerned about the impacts of increased mining to agricultural water supplies, orchardists and contractors concerned about train blockage, mothers of coal and non-coal dependent children concerned about public safety, etc. etc.

87

In addition, the characterization of the county as primarily "rustic living" households does not correlate to the demographic data which shows that non-farm self-employment is the single largest economic sector in the county and that natural resource jobs, in general, are in decline.

This section is inaccurate, biased and misleading.

This section should:

- first, be deleted
- second, be rewritten using current data

3.15.3 Environmental Consequences

88 More information on the IMPLAN model should be included. Or, the locally developed RDEP model should be used.

Other comments:

Use of Multipliers and Analysis of Indirect Effects:

89 Multipliers are useful only to the extent that they are based on reality. If they are not they tend to amplify the impact of the coal industry. The IMPLAN model suggests that .50 of each mine employees dollars are spent locally. But what amount of money really is spent locally? In extractive economies, based in isolated rural areas, much of the money earned is not spent locally but instead leaks out to other areas. The EIS needs to determine the rate of leakage and readjust the multiplier if necessary.

90 Using multipliers furthers the notion that it is the coal mines that are driving the economic development in the North Fork valley and that without the mines, the local economy would collapse. The EIS needs to present the role of the coal mines within the context of the diversified local economy. It needs to go beyond multipliers, which is an inherently pro-industry tool, to present a more balanced economic analysis. For example, use of environmental economics tools such as non-market valuation that determines, for example, the value of quiet, train-free nights and landscapes unscarred by industrial development, need to be included in the analysis.

Unrealistic Worst Case Scenarios:

91 All of the estimates made for impacts to households, school districts, etc. are based on the unrealistic scenario of every single mine employee leaving the area. The data for projected impacts should be based on the historical experience of mine closures in 1986 and estimated for the future, based on the current more diversified economic conditions in Delta County.

Irretrievable resource:

92 Once the coal resources of this community are gone, so is all of the value of that coal—how much of the value of this local resource stays in the community, how much goes to the various governmental levels and how much of it becomes corporate profit? The EIS should include a chart showing these percentages.

Public Expenditure:

93 Nowhere is there a quantification of how much money is spent by local governmental to maintain the pressure on public infrastructure created by the presence of coal mining in the valley. This type of analysis should be included.

Property Values:

94 The impact to property values, especially those near the mines and train tracks needs to be addressed.

General comments:

95 Relevant graphs and charts should be embedded with text.

8. General dEIS Comments

96 p. 3-158: Referenced Colorado Noise Emission limits missing from document.

97

p. 1-5: Decisions to be Made. To state that "Granting a lease only gives exclusive rights to the coal resource; it does not authorize mining," is misleading. The EIS should be clarified that the lease is a property right, and once granted mining has to be allowed, as long as the operator works within the regulations of the state Division of Minerals and Geology and federal OSM.

98

p. 1-14 to 15: Bowie #1 Loadout and #2 Mine: dEIS does not fully discuss BRL's applications PR#2 and PR #3 to DMG, which would convert the mine to longwall operations, would increase production to 5 million tons per year, and would increase surface handling facilities and re-locate BRL's stockpiles. Even though these actions are being permitted in the state process prior to a federal coal leasing decisions, investment and construction will depend upon a successful award of a federal coal lease to BRL. Therefore these permitting actions have to be disclosed and analyzed in this EIS. The DEIS also fails to mention likelihood of new train loadout being constructed and connected directly to #2 mine.

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100

p. 1-15: dEIS fails to mention production figures or that Oxbow plans to increase production to 4.8 MT in 2000 and up to 6 MT thereafter (Source: Oxbow presentations to North Fork Coal Working Group).

101

p. 1-16: West Elk Mine: New permit action by West Elk mine include a new portal that may be sized to handle 10-12 million tons per year. West Elk says it is also likely to exceed proposed 8.2 million tons per year before the 2005 date listed in the dEIS. In general, the dEIS uses the 2005 date for final/highest production figures for all mines, including cumulative production of 19 MTY. This is somewhat misleading, as mines individually and cumulatively are more likely to reach their top production levels by 2003, and may exceed those figures by 2005.

102

Appendix B: No action alternative not listed or described. Since even in this alternative mining continues, and especially since mining at the West Elk mine is unaffected, this alternative should be fully described, including reserves, production figures and tonnage.

103

p. 1-17: Logging: Logging in the Stevens Gulch area should be included in the cumulative analysis, especially regarding the exploration issues, new road construction associated with the proposed actions, loss of irrigation water and truck traffic.

104

p. 1-17 Railroads: Since construction of a new siding is already being contemplated to handle increased coal production that would result from this decision, we do not understand how this could be left out of the cumulative impacts review.

105

p. 1-18: The Bureau of Reclamation reports that they expect to issue a supplemental EIS for the AB Lateral in the winter or early spring of 2000. Therefore, this project must be included in the cumulative analysis. Likewise, contrary to the dEIS the Mt. Emmons Molybdenum proposal is real, and in appeal in state water court. As part of the water rights case, specific mine plans water consumption levels and other elements have been made. Therefore this also should be included in the cumulative analysis.

106

p. 1-18: We do not see the Forest Service road construction moratorium or the new roadless area policy mentioned. These should be included and impacts on this decision clarified in the dEIS.

107

p. 1-19: Sleep Deprivation: While the EIS need not conduct its own studies on sleep deprivation, existing studies should be included and analyzed regarding possible impacts in the North Fork valley due to increased nighttime train schedules.

108 After section 1.9 cumulative impacts are essentially dismissed and no longer referenced throughout the rest of the analysis. Cumulative impacts should be considered and discussed for each category (e.g., Air Quality, Aquatic, etc.) in order to fully comply with NEPA.

109 p. 3-53: Section 3.3.3.5 Effects of Alternative C: This should include the same increased subsidence amounts and acreage figures as Section 3.4.3.5 on page 3-58.

110 p. 3-17: Table 3.1-9: The grand total annual increase in PM10 emissions for BRL coal haul trucks exceeds the BACT threshold under the Clean Air Act requiring a "Major Modification" to a PSD permit for a single stationary source. Given that that's the highest level of regulation for a single source, we do not see how you can rate the effects from Fugitive Dust on page 2-24 as "low." Bias revealed.

111 Section 3.1.2: Effects of rural fugitive dust and PM10 from all coal mine related traffic should be modeled to determine health impacts to the residents who live and breathe the air near the highway.

112 p. 2-23: There should be a full and detailed description of the Preferred alternative. Neither the summary nor chapter 2 adequately describe BLM's intended decision, and in fact what you have is extremely confusing.

113 9. Attachments: Attached and hereby included as part of WSERC's comments by reference are:

- Grand Junction Daily Sentinel Editorial, Coal Train Chaos, May 21, 1999
- BLM News Release of Dec. 17, 1998
- NFCWG Draft MOA (Bowie Resources Ltd. Leases Only)
- NFCWG Draft MOA (3-Mine Mou)
- NFCWG Worksheet for Railroad Crossing Tour.

114 **10. Conclusion**
It seems that the rush to get the dEIS out has resulted in a sloppy, unsubstantiated, biased and incomplete document. Significant improvements are needed in order to have a defensible document that meets the hard look and cumulative impacts requirements of NEPA. Beyond that, this document does not present valid, accurate or comprehensive information necessary for the public, local governments or the federal decision-makers to grapple with this decision.

115 It is very important that the BLM step up to this challenge and produce a quality, neutral, fair and comprehensive analysis. WSERC and other groups in the community have invested an immense amount of time and political capital in developing mitigations and other solutions through the NFCWG's MOA process. But those agreements are not finalized, and are very fragile. Our community needs more and better information about the difficulties these proposed leases may cause, and the cost and timeframes of our proposed solutions.

116 If the BLM continues to advocate a one-sided, poor quality and hurried EIS, we are concerned that we will be dragged back into a situation of negative community conflict, and that our attempt to negotiate agreements will fail. Right now, based on the quality of the dEIS so far, appeals and even litigation are almost assured from the many parties involved in this decision. To avoid that the agencies must conduct a full re-write that meets the concerns and comments listed in this and the many other comment letters you will receive. In particular, we urge that you find a copy editor (i.e. large size newspaper editor) who is experienced at identifying and rooting out inappropriate bias, and purge the next round of the EIS of its one-sided subjectivity.

117

You challenged us to get together as a community and work out win-win solutions. We have, and are very close. Now it is time for the BLM and forest Service to keep its side of the bargain.

WSERC sincerely appreciates the opportunity to comment. Please call us if we can provide further detail or clarify our position. Please also keep us on your mailing list for all further public notice about this project.

Sincerely,

Steve Hinchman, Director

W/ Attachments

Nov. 3, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Dear Jerry,

Please accept the following comments as an *addendum* to the comments of the Western Slope Environmental Resource Council's comment letter on the North Fork Coal Leasing draft Environmental Impact Statement.

Comments on Subsidence and Seismology Impacts

1 The presentation of impacts related to subsidence and seismology is relatively thorough, compared with other issue areas addressed in the draft EIS. Even so, there are several points that must be considered with regards to the data collection methodology, the completeness of the information presented and the conclusions drawn.

2 1. Angle of draw: It is unclear why a 21 degree angle of draw is deemed adequate for mining at Bowie Resources Ltd. Please justify this in light of the 25 degree angle of draw reported at West Elk and the 63 degree angle of draw deemed necessary at the Twentymile mine. The estimates of angle of draw should be conservative and well-justified.

3 2. Groundwater: The dEIS states that subsidence fracturing of the overlying strata will not affect groundwater. Please address the potential for subsidence to cause an increase in the transfer of ground water out of the Terror Creek/Hubbard Creek drainages beneath the Grand Mesa to the northeast.

4 3. Methodology: In general, it seems that many conclusions are drawn from the consultation by Dunrud. A consultation does not constitute an analysis. Please delineate, in the body of the EIS, the methodology used, and the verification and validation of the model used under the conditions expected in the area of interest (i.e. verify the degree to which past prediction has correlated with past performance under conditions similar to those found in the areas of interest). Also identify nominal values and the error bars associated with them. Identify clearly where conclusions are firm enough to be backed by the guarantees of those organizations economically benefiting (i.e. via insurance, bonding, mitigation plans, augmentations plans, compensation, etc.), and where the conclusions are backed by assertion.

5 Also, please address how the transfer of multi-decade subsidence and seismic risk from the companies benefitting from coal mining to an uncompensated third party. (i.e. TDRC) can be justified and include an analysis of the long-term stability of the mines under flooded mine conditions, the stability of pillars exposed to mining-induced seismic events, and the increase in stability grouting of the entries upon cessation of mining would offer.

6 Also please note in the body of the document that subsidence risk has been identified by the insurance industry as an uninsurable risk requiring the implementation of publicly-funded insurance in several states.

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Sincerely,

Tara Thomas, WSERC staff

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November 3, 1999

Bureau of Land Management
2465 S. Townsend Avenue
Montrose, Colorado 81401
Attention: Jerry Jones

RE: North Fork Valley Coal Draft Environmental Impact Statement

Dear Mr. Jones:

This letter constitutes the comments of the Colorado Mining Association on the North Fork Coal Draft Environmental Impact Statement (EIS) August 1999. The Colorado Mining Association is a trade association, established in 1876 and incorporated in 1897, whose membership of 88 companies and 700 individuals includes both small and large mining companies and the firms that manufacture and distribute equipment and supplies and provide services to the industry. Our members include the coal operations in the North Fork Valley.

1 In general, we believe that the Draft EIS provides a comprehensive look at the potential impacts of the action under consideration, issuing the Iron Point and Elk Creek Coal Least Tracts, as well as issuing an exploration license within and surrounding the Iron Point Coal Lease Tract. We appreciate the timeliness of the agency's publication of the Draft EIS, as well as the cooperation extended the Coal Working Group in addressing many of the issues raised. It is

2 clear, however, that numerous agencies in addition to the BLM and Forest Service have direct permitting authority at the state level, including the Colorado Division of Minerals and Geology. These agencies will issue permits dealing with the substance and details of the mining operations themselves, following permit issuance. Therefore, many of the issues raised in the broad, general context of the Draft EIS are more properly addressed before the various permitting agencies.

3 We support Alternative B, believing that the plans as submitted by the applicants offer the best option for continued coal development in the North Fork Valley and resulting longer-term support to the existing economy.

Our specific comments will be brief and limited to three points. They deal with suggested production limits and mitigation of off-site impacts as well as one technical correction.

4 Production Limits (3.14.4.2) Listed under the general heading of "Other Transportation Options" Section 3.14.4, the paragraph responds to comments received during scoping concerning placing a possible cap on production from the area. We concur that production limits may jeopardize the economics of a mining project. We also note that such action would be in direct conflict with the BLM's requirement to ensure that coal resources within a lease will be mined to achieve maximum coal recovery, thus providing maximum royalties to the federal government as owner of the coal. Additional problems include the uncomfortable role in which the BLM could find itself should a production cap favor any operation over its competitors.

5 Off-Site Impacts. Among potential mitigation measures for rail traffic impacts suggested both in the Draft EIS and at the public hearing held October 14 was the redesign and construction of rail crossings in nearby communities. Although such discussion provides food for thought and community involvement, we concur with the local official who stated that such off-site impacts are rightly the province of local governments. Further, the proper jurisdiction for decisions involving rail crossings is with the National Surface Transportation Board, not the BLM or Forest Service. Mitigation of off-site impacts generally should be the product of negotiation between the successful lessee and the community, not predetermined in an EIS prior to issuance of any lease.

6 As a technical correction, we would point out on page B-10 line 2, the listing of CO2 (carbon dioxide) as a criteria pollutant regulated under the Federal Clean Air Act is incorrect. Carbon monoxide, or CO is the regulated substance.

Once again, thank you for the opportunity to comment on the North Fork Valley Coal Draft EIS.

Sincerely,

Dianna L. Orf

Dianna L. Orf
Representing the Colorado Mining Assn.

LETTER 28

Dr. Mary M. Chapman. 408 1740 Road. Delta. Colorado 81416
Senior Fellow. Center for the New West
Staff Coordinator. Delta/Montrose/Ouray Partnership

November 3, 1999

Mr. Jerry Jones
BLM Uncompahgre Field Office
2505S. Townsend Ave.
Montrose, Colo. 81401

Please give this to Jerry Jones

Dear Mr. Jones:

I. Background

The Executive Committee of the Delta/Montrose/Ouray Public Lands Partnership asked me to review the socio-economic portion of the draft North Fork Coal Environmental Impact Statement with two objectives in mind. Those objectives were:

a) to assess the general quality of the socio-economic section as it pertains to coal mining in the North Fork. If warranted, recommend changes and/or improvement in data collection, analysis, and presentation.

b) to apply the Regional Economic Design Model (REDP) to mine employment and earnings data presented in the analysis; compare the results using the REDP with those presented in the Draft EIS derived from IMPLAN.[1]

The Partnership asked me to conduct this review because of my extensive background in rural economics and energy development.[2]

II. Criteria used in this assessment of the DEIS

Social and economic impacts identified in Chapter 3.15 and in Appendix L of the draft EIS were reviewed by me for:

---

[1] The State of Colorado has renamed this model. It is now called the Local Economic Information Forecasting Assessment model, or 'LEIFA'. It is still known locally as the REDP.

[2] o Doctorate in Public Administration and Business; Doctoral Dissertation on energy boom-and-bust cycles, including coal development in the North Fork during the 1970's.
o Employment by Colorado Governor Lamm and the Colorado Energy Research Institute to help design and facilitate a Cumulative Impacts Task Force and study for Oil shale Development in the late 1970's and early 1980's.
o Employment by a major utility, Colorado Ute, to permit the Rifle San Juan Transmission Line, and the Hiawatha Fluidized Bed project, including liaison work with federal agency permitting (EIS).
o Development of the Regional Economic Design Project, in conjunction with the San Juan Forest Partnership and the Colorado State Demographer.
o Association and work as a Senior Research Fellow at the Center for the New West, specializing in rural economics and public lands issues.

o Completion and accuracy. Did information appear to be accurate and complete?

o Consistency. Were data and information applied and/or compared in consistent manner, or did it vary by subject? Were comparisons made on information that was truly comparable? For example, was full-time employment being compared with part-time employment? Were conclusions drawn in the narrative, supported by the data and analyses in Appendix L?

o Relevancy/usefulness. Did the information appear relevant? Was it presented in context? Was it presented in a manner that was easy to understand and use? Did the findings make sense?

III. Comments on DEIS

A. Geographical units of analysis: Categories are confusing and application is not consistent.

"Primary", "secondary", and "tertiary" geographic categories were established for the Draft EIS analysis of socio-economic impacts. The analysis did not adhere to these categories in a consistent or analytically rigorous way. Most often, the analysis addressed the primary area -- Delta County. Sometimes, the primary area was compared to the secondary area. Less frequently, the tertiary area. Occasionally -- as in the discussion of population growth -- statewide data was used.

1

The net effect is confusion and findings that may mislead the reader. To illustrate, on page L-7, the DEIS states that "between 1981 and 1986, Delta County went from producing two-thirds of the secondary study areas coal to producing just over one fourth." It goes on to state: "Since 1986 the coal mining industry has rebounded in the secondary area...However primary production of coal has shifted toward Gunnison. This language is unnecessarily confusing. The reference to a shift in production to Gunnison County makes it sound as though Delta County was not a participant in the "rebound". In fact, the "rebound" was due primarily to the West Elk Mine, whose employees mostly live in Delta County. From a socio-economic point-of-view, Delta County citizens were the ones most affected by this rebound.

Recommendations:

2

1

1) Comparisons between primary, secondary and tertiary areas should be provided throughout the analysis on a consistent basis -- not just "here and there". This consistency is necessary for methodological reasons. It is also key to establishing a believable, contextual background against which the reader may judge and comment on the alternatives.

2) There are MUCH more straight forward and less confusing ways to divide the geographical area, such as: a) the North Fork, b) Delta/Gunnison Counties, and c) Regional. Please reread the quote above as an illustration of just how confusing these categories can be.

2

B. Comparing data and information over a period of time: Consistency and multiple data points are needed

The draft EIS compares and contrasts information using different time frames with no explanation as to why. This practice can distort the findings in subtle, and not so subtle, ways. For example, the draft EIS addresses the rapid decline of housing sales, between 1995 and 1998. Had it extended this data back three years to 1990, a sharp increase in housing sales and values would have been apparent -- sharper, perhaps than the decline reported between 1995 and 1998.

3

In contrast, the employment and employee earnings cover a 15-16 year time period, from 1980 - 1996. Rather than providing annual data, the full 15-16 year period is averaged. Broad generalizations are drawn and key distinctions are lost. One of the most critical distinctions lost is the fundamental shift in the driving forces behind in-migration this decade. By averaging employment and migration data from 1980 and 1996 -- a 15-16 year period -- the draft EIS is able to conclude that when "Delta County loses jobs, local population growth tends to slow or decline." This misleading finding becomes a "theme" of sorts throughout the analysis, compounding the problem.

However, had the data been trended, and compared to employment by sector or year, or ever-other year basis, a different, more compelling conclusion would have been evident. Basically, in the 1990's residents have migrated into the this area for lifestyle reasons. Jobs have followed, but they have tended to be service sector jobs. This is not a new finding, or a unique one. Economists and sociologists report it

3

happening throughout the rural west. Demographic data from the 1990's strongly supports this conclusion. It is difficult to understand how this FACT was missed.

Related to this same set of 1980 - 1996 data, the role that mine technology has played in reducing mine employment is obscured by gross averages.

Recommendations:

4

o Timeframes used for analyzing data should be consistent.

o If the time frame is 1980 to 1996, all findings should be supported by data that covers this period.

o Data should be trended by year, or every-other year. Employment should be identified as full or part-time, and compared with equivalent data.

o Earnings should include individual and sector earnings.

C. Credibility and comparability of data

5

Data sources are mixed and matched throughout the analysis. For example, standard sources of data, such as BEA may be compared with mine employment data, but the reader cannot tell if full-time employees are being compared with full-time employees. In the next instance, the source of data may be the Colorado Tourism Board. No apparent effort has been made to cross-check or verify information, despite the Board's role as an advocacy organization that promotes tourism.

Claritas: Anything but clear

6

It is hard for to view the characterizations arrived at by Claritas as anything but divisive and meaningless. According to Claritas, one of at least a handful of models that sorts and labels demographic data, the people in Delta County tend to fall into three out of fifteen possible categories -- "rustics", "heartlanders", and "country families". These are not findings of fact as much as they are labels, and the labels are inconsistent with other factual characteristics about Delta County. Examples

6 include the level of education of the adult population in the County, the increase in home-based business, and the influx of retirees.

7 It would seem that a more accurate characterization of the citizens in Delta County can be drawn from the formation and role played by the Coal Working Group, and the Delta/Montrose/Ouray Partnership. It is a fact that this diverse group of interests, which includes both newcomers and old-timers, came together early in the coal development process to clarify and address community issues.

8 Other questionable applications of information include "observations regarding social values" taken from the scoping. For example, on page L 29 the document states that Delta County has not yet experienced the rapid in-migration occurring elsewhere in counties of Colorado's Central Western Slope region." This statement is counter to the opening statement in the EIS on population, which says: "Population has increased by 3 percent annually since 1990. This rate of growth is faster than the rate of growth occurring in the broader secondary and tertiary study areas as well as statewide."

9 The "observation" being reported in this instance goes on to state: "however, there is evidence of growing difference in social values of newcomers versus long-time residents. It is generally believed that newer residents are less supportive of traditional rural area natural resource activities including ranching, farming and mining". Again, the EIS should provide substantiation or illumination of this "observation", if it to be given credence as part of the analysis. (To my knowledge, the only real research done on this in Delta County was by two doctoral students in the 1970s, working independently of one another -- Bill Freudenberg/Yale; myself, CU.) To illustrate, would the "newcomer" who opposed coal development in the 1970's and is once again in opposition in the late 1990's, still be classified as a newcomer?

D. Adequacy and usefulness of off-site and fiscal impact analysis

10 Considerable data is presented that addresses the economic impacts of coal mining. However, from a community point-of-view, the more critical component of a "socio-economic analysis" is the portion that identifies off-site impacts and fiscal effects. This socioeconomic analysis barely scratches the surface of the public services' capacity, infrastructure and finance issues. There is very little to critique.

This is a major flaw in the EIS.

10 For every category identified in section 3.15.2.6, (county governance, municipal governance, education , ambulance, fire protection, law enforcement, water and sewer, hospital and medical, electrical utilities, social services and roads) baseline capacity information needs to be quantified, use trends established, and threshold and financing (expenditures and revenues) implications addressed. This should be done in much the same way -- and to the same degree of detail -- that is recommended for the economic analysis above. Without this balance, the EIS could be characterized by some interested parties as more of an advocacy document than an analysis.

E. IMPLAN, sources of data and analysis methods

11 The Partnership has worked with the GMUG and communities throughout the Region to develop an economic analysis tool that can be used to assess the social and economic impacts of all types of local decisions, especially public lands decisions. The model is designed to be both relevant, understandable, and verifiable locally. Curiously, the draft impact analysis, used IMPLAN. To the extent than an explanation was given for this choice, it seemed to be that Gunnison was not in this region's RIMS data. This is irrelevant. The REDP, or "LEIFA" is available for all the region's counties.

12 As a cursory check on IMPLAN findings in the area of secondary employment and earnings, I used the REDP method of analysis. The outcomes obtained using the REDP method were comparable, although the categories that the REDP uses to characterize secondary effects are described differently, (indirect base and residential services). No further time was spent comparing and contrasting the two models. This does not mean that the same comparability would exist in other areas.

Sincerely,

Dr. Mary Margaret Chapman
Coordinator, Delta/Montrose/Ouray
Partnership

LETTER 29

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November 3, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Dear Mr. Jones:

Our office represents, *pro bono*, the Concerned Citizens of Delta County and the Land and Water Fund, Inc.

This comment pertains to the September, 1999 document entitled "North Fork Coal Draft Environmental Impact Statement."

This EIS comes under the auspices of the National Environmental Policy Act (hereinafter "NEPA"), 42 USC §§ 4321 et. seq. NEPA's main provision is that an Environmental Impact Statement (EIS) is required for federal actions which have significant effects on the human environment. 42 USC § 4332 (C). In this instance, the federal action is the possible lease of BLM and USFS lands to private companies to mine coal.

The region under which the coal mining would take place is home to a fragile but diverse and vibrant human and natural environment. Several vineyards, orchards, ranches, and other private businesses operate in the area, and depend on reliable and clean water. They must not lose their precious water to a coal mine's sinkhole. Over a hundred families of various sizes live in the impacted area, and would be impacted by noise, traffic, lights, and seismic activity that coal mining would bring. As detailed in the Draft EIS, this region is home to many bird, animal, fish, and plant species that comprise an interdependent ecosystem that could be shattered by the activities contemplated by the lease applicants.

1 This document is mainly an overall comment on the Draft EIS. Supplemental material includes documents leading up to this point in the EIS process, which was completely overlooked in the Draft EIS. In fact, the Draft EIS attempts to give the misleading appearance that this process began in January, 1999, when, in fact even getting to the point of an EIS has been a long struggle for my clients that finally culminated in the

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1

initiation of the EIS process, as shown in the attached documents. We respectfully request that these documents by duplicated in their entirety and included in an Appendix for the Final EIS in order that they become part of the record of these proceedings.

I. NEPA's Applicability

For the record, it is important to clarify what NEPA and subsequent caselaw requires in the subject Draft EIS. Much of this is covered in the attached documents relating to the aborted EAs and FONSI for one of the applicants, and are hereby incorporated by reference (as the Draft EIS already explicitly incorporates – see pp. 1-5 and 1-9 of the Draft EIS).

Several general concerns about this Draft EIS surface in light of the following case law:

2 1. Although the "no-action" alternative is discussed, it is often dismissed or portrayed in a negative light. The positive impacts of "no-action" to the environment should be discussed. See Bob Marshall Wilderness Alliance v. Hodel, 852 F2d 1223 (9th Cir. 1988), cert. Denied, 489 U.S. 1066 (1989). See also, 40 CFR 1502.14(2).

3 2. The range of alternatives (four) is not broad enough for a final decision. There should be one or more alternatives somewhere between "no action" and Alternative B. See California v. Block, 690 F. 2d 753 (9th Cir. 1982).

4 3. "Cumulative impacts" should be considered for each category (e.g., Air Quality, Aquatic, etc.) in order to fully comply with NEPA. Cumulative impacts of a federal action in conjunction with other environmental impacts in a region are a primary focus of the efforts of the Council on Environmental Quality – the executive entity charged with defining NEPA:

> "Increasingly, decision-makers are recognizing the importance of looking at their projects in the context of other developments in the community or region (i.e., of analyzing the cumulative effects). Direct effects continue to be most important to decision-makers, in part because they are more certain. Nonetheless, the importance of acid rain, climate change, and other cumulative effects problems has resulted in many efforts to undertake and improve the analysis of cumulative effects. Although no universally accepted framework for cumulative effects analysis exists, general principals have gained acceptance." *Considering Cumulative Effects Under the National Environmental Policy Act*, April, 1997, Council on Environmental Quality, Executive Office of the President of the United States, p. 7.

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This was a major problem with the 1998 EAs, and supposedly a reason for entering the EIS process. It is discouraging to not see more about the surrounding human and natural environment (especially in light of the presence of endangered species) and how federally-sanctioned activity in the surrounding areas (e.g., other mines, grazing, logging, highways, etc.) does or could interact with these proposed mining activities to impact the enviroment. See City of Tenakee Springs v. Clough, 915 F. 2d 1308 (9th Cir. 1990). See also 40 CFR 1508.7 and 1508.25. 4

4. This EIS improperly segments these two coal leases from the rest of coal activity in the North Fork Valley. At the outset, we had hoped to see an EIS that would address how conditions have changed since the last major Federal environmental study in 1989. Instead, this Draft EIS appears to be merely a "sprucing up" of the 1998 EAs. This EIS should consider ecosystems and watersheds as the affected regions, as environmental matters do not respect human boundaries. See 40 CFR 1502.4(a). 5

5. How is this Draft EIS being funded to preserve objectivity? An appendix should be added detailing the sources and destinations for every aspect of the EIS process. 6

II. General Comments on Draft EIS

A. *Purpose and Need*

1. Page S-2 asserts that "the federally owned coal deposits in the Iron Point Coal Lease Tract are a logical extension to the existing operations at the Bowie No. 2 Mine." Logical for whom? Certainly for the applicant, but for the impacted citizens in the areas surrounding? For the impacted environment? A truly objective EIS would eschew such obviously biased statements at the outset and throughout the document. 7
2. It is worth noting that the EIS states that the BLM and Forest Service "maintain policies which allow private industry" to coal mine, but not to encourage [illegible], as this document seems to suggests throughout. Coal mining is but one of many uses for the federal land in question. 8
3. Please provide citations supporting the statements as to the Forest Service's policies in the last paragraph of page 1-3. 9
4. The RMP referenced at the bottom of page 1-7 is out of date in light of the development of the long-wall mining techniques in the last ten years, which make it possible for coal companies to engage in "slash and burn" mining, which in turn leaves the environment degraded for generations and the socio-economic situations of the surrounding communities impoverished. There should be no reliance upon this RMP unless an up-to-date RMP is prepared in its place. 10

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11 5. All issues listed as "Outside the Scope" on pages 1-18 through 1-19 were received by the public, and should therefore be addressed as within the scope in order to follow the spirit, if not the letter, of NEPA.

B. Alternatives Including the Proposed Action

12 1. A "preferred alternative" somewhere between B and D is recommended in this draft (page 2-23), which seems premature in light of the fact that comment has only really just begun. In addition, as noted above, the range of alternatives should include an alternative between A and B, so that "no action" is not placed at the far, unreasonable end of a spectrum of alternatives.

13 2. Where does the 5 million ton per year figure for the Bowie mine come from? From the mine itself? If so, in light of past discrepancies that partly forced this EIS, this number needs to be nailed down and the mines monitored to stay within these limits.

14 What are the provisions for governmental or citizens involvement in monitoring mine compliance with whatever ROD is finally given? Where are the "teeth" for enforcement, so that the residents of the regions and future generations are not left a hundred years from now with irreparable environmental harm caused by subsidence, failure to reclaim, air and water pollution as a result of allowing these mining operations to proceed?

C. Environmental Analysis

15 1. At this stage, it is sufficient to note that the environmental analysis is skewed toward a conclusion that "no action" is not a viable alternative, and that mining will have no impact (e.g., please reconcile the assertion that "it is unlikely that any measurable impact to vegetation would occur as a result of mining subsidence" with the common sense observation that if you alter the land, you alter the life source for the plants on the land). We reserve the right to comment on the final EIS for each resource description, with the hope that such document will truly present the benefits of this alternative and an alternative somewhere between A and B.

16 2. "Cumulative impacts" should be considered in-depth within each sub-discussion of resource description to fully comply with NEPA (see above).

17 3. Of particular concern are both short-term and long-term impacts on endangered fish species. Short-term impacts that kill fish lead to long-term impacts such as endangerment and extinction. This connection is ignored in the draft EIS by assuming that short-term impacts are disconnected from long-term.

18

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19 4. Regarding traffic: the Draft EIS concludes that increasing the number of trucks to 980 will probably lessen traffic accidents. The same for a 700% increase in trains.

20 5. Base line data throughout the document is inconsistent, too numerous to cite here.

21 6. Discussion of the "no-action" alternative through the document suggests that no-action would force the immediate closure of the mines even though the mining companies have more than four years left in their fee coal.

D. Mitigation

22 Mitigation is not really addressed in the Draft EIS, but will hopefully be addressed in the Final EIS. We reserve the right to comment on the final EIS for each resource description mitigation measure when properly presented in the final EIS.

E. Right of Appeal

23 Members of my client group have been pressured by coal mine applicants to irrevocably relinquish their right to appeal any part of this EIS process in return for concessions in the coal mine's application. Concerned Citizens of Delta County and the Land and Water Fund hereby assert the right to appeal any part of this EIS process through legitimate channels, as allowed by NEPA.

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III. Recommendations

24 25

Based on the above discussion, it is recommended that the BLM and the USFS choose the alternative of "no-action" in their ROD for this EIS, in light of the possible environmental impacts that the federal action of such leases would present. Alternatively, if the BLM and USFS are determined to go forward with these lease application processes, it is recommended that the range of alternatives include one that is somewhere between A and B, and that the Final EIS address the issues raised above.

Respectfully Submitted,

Kurt C. Hofgard, Colorado Attorney #23807
Hofgard & Associates, P.C.
Pro Bono Attorney for the Land & Water Fund, Inc. and Concerned Citizens of Delta County

encl.

cc: Concerned Citizens of Delta County
LAW Fund
Ms. Laura Carlson, Colorado Public Radio
Mr. Michael Streiby, Denver EPA Office

LETTER 30

11/3/99

Dear Mr. Jones,

This letter is in Regard to the BLM's draft EIS for new coal leasing in the North Fork Valley.

I live in the North Fork Valley. The major increase in truck & train traffic will decrease quality of life in the valley. It also poses a threat to the safety of North Fork Valley residents. Why were there no mitigations required for the increased train traffic and only minimal for truck traffic? 1

A valid range of alternatives for coal production should be included in the DEIS to compare full range & scale impacts of the proposed coal expansion. 2

A state approved water-augmentation plan must be in place prior to mining within one mile of the Terror Creek Reservoir, Canal or Collection Basin. We must protect our agricultural economy. 3

The BLM must seriously consider the impact of new coal leasing on the residents of the North Fork Valley — The citizens rights to clean water, clean air, less congestion & noise on roads & safety. I ask the BLM for a fair & unbiased economic analysis to assure the best possible future for our community and environment. 4 5

Sincerely,

Kay Anderson
3852-035 Dr.

LETTER 31

Nancy Arrowood
P.O. Box 133
Paonia, CO 81428
Nov. 3, 1999

To the Bureau of Land Management
Re: EIS of Coal Mine Proposals in the North Fork Valley

I fully support the Western Slope Environmental Resource Council's position that the above EIS is incomplete in not considering several important factors. 1

I feel we already have too much truck traffic on the highway and certainly do not want to see it increase by nearly 500%. 2

I would rather see it hauled by train but that the coal co's. should bear responsibility for building overpasses and any other means necessary to keep the trains from holding up traffic throughout the rail route. I also oppose 3

mining near water sources, be they for 4

domestic or irrigation water.

The increased production would not positively impact employment in this area, according to 5

the mines' own statistics; even if it did,

many more people live here than the mines
5 employ and everyone's standard of living
must be considered.

I ask that you reconsider this EIS and
6 include all the factors mentioned above.

Sincerely,
Nancy Arowood

Westalk@aol.com on 11/03/99 09:14:14 AM

To: Jerry_Jones@co.blm.gov
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: Comments on Draft EIS

To the BLM:
I am writing to comment on the draft EIS for coal development in the North Fork Valley. I applaud the BLM's decision to prepare a valley-wide EIS. However, I don't think the document adequataly addresses concerns about the impacts of increased coal production.
In particular, the document doesn't go far enough to address dramatic increases in the numbers of coal trucks using Highway 133, the increased numbers of coal trains using worn tracks without adequate crossing safeguards, and the threat to agricultural water that more coal mining poses.

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Any plan to mine more coal should also specify plans to safeguard our agricultural water, eliminate the 978 trucks a day that could be using Highway 133, improve public safety and emergency services access at railroad crossings through the use of under and over passes and more signals, and complete reclamation of the old Bowie #1 (Cyprus Amax) mine.

Thanks for your consideration.

Sincerely,
Jane McCarry and Chuck Behrensmeyer

LETTER 33

Shari Dangremond
P.O. Box 1266
Paonia, Colorado 81428

Jerry Jones
2465 S. Townsend Ave
Montrose, Colorado 81401

Dear Mr. Jones:

I'm writing to comment on the applications for greatly increasing coal mining in the North Fork Valley. After reading several aggressively hostile letters in the Delta County Independent, I almost get the idea I might be beaten up by a gang of coal miners' wives for offering any opinion other than one totally supportive of expanded mining, so I've decided to comment by letter, rather than at one of the public meetings. 1

Someone once wrote that a major question posed by modern industrial society is: how much money would you have to be offered for you to permit vehicle exhaust to be spewed into your child's face. I think the same problem can apply to noise. The coal trains themselves aren't really that bad, but the whistles are ear-splitting at close range, though I suppose not much worse than attending 2

rock concerts, as far as hearing damage goes.

2 I suppose the coal miners are being offered enough money to make it worth their while to put up with it, but what about other people whose homes are close to the tracks or the trucks?

The newspaper letters written by the coal miners' wives tell people who don't want more noise and exhaust than there is already to "just get out of the valley. We won't miss you." A lot of people who have that option might just do that, to get away from such obnoxious people as well as the noise. In fact, I know quite a number of people who have already done so.

I guess that will be O.K. if the people of the North Fork think they will be better off with an economy based on coal mining and nothing else.

Sincerely,
Shari Dangremond

3 P.S. The noise that bothers me personally the most in the town of Paonia are the two gravel pits, with their trucks going all night sometimes, and the crushers, which carry for miles. I understand that mine expansions will step up activity at the gravel pits which service the mines. I think there is already way too much noise for a sane society

LETTER 34

Nov-02-99 13:11 John D. English

PO Box 1324
Paonia, Co. 81428
2 November 1999

Jerry Jones
BLM Montrose

Via Fax

Re: NORTH FORK COAL EIS

Dear Mr. Jones,

1 Please include these comments in the public record.

2 VIBRATION FROM THE COAL TRAIN IS DESTROYING MY HOME. Only when the train goes by does my house rattle. At no other time do my windows and doors rattle. Lying in bed I feel vibration only when the train goes through town.

Vibration from the train has cracked the foundation of my home and caused it to settle unevenly. As a result, my floors are uneven.

A year ago I could feel the train only once a month. Now I can feel it daily - sometimes more than once a day.

Perhaps there is a correlation between train speed and damaging vibration. If so, regulating speed might reduce or eliminate the damage. Regulating speed is just a cat and mouse game, an enforcement nightmare.

3 In fact, speed regulation does not work. Today train speed is regulated and varies greatly. Sometimes the train is noticeably accelerating as it goes through town, sometimes decelerating. Sometimes, especially after dark, the speed is double-or more-that of other times. If the train is complying with the regulations, the regulations are deficient. If the train is not in compliance today, is it realistic that it will comply in the future?

4 Rather than trying to find the ideal speed and enforcing it, I would let the train set its own speed. In exchange, I would require the train to accept responsibility for the damage it causes and pay for those damages.

Any agreement must require the train to:
1. admit culpability
2. post a significant bond

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3. agree to a set of simple, clear criteria for paying compensation to aggrieved property owners
4. agree that payment shall be automatic and immediate upon receipt of claim that meets the criteria

4

The principle is easy to understand: The train shall be responsible for the damage it causes. Those damaged shall not be saddled with the additional insult of an onerous burden of proof; they shall simply file a claim and be "made whole."

5

The damage I am suffering is on private land - not on land your agency manages. Yet the damage is a direct result of the activities on the land you manage. I request that you work with any and all other agencies that do have authority to regulate the collateral damage to obtain their agreement to mitigate the offsite damages. I FURTHER REQUEST THAT YOU WITHOLD APPROVAL FOR ACTIVITIES YOU CAN REGULATE UNTIL THOSE OTHER AGENCIES WHO DO HAVE THE AUTHORITY TO REGULATE THE TRAIN'S VIBRATION HAVE AGREED IN WRITING TO COMPEL THE TRAIN TO AGREE TO THE FOUR POINTS ABOVE.

Thank you for your consideration and inclusion of these comments into the public record.

Sincerely,

John D. English

LETTER 35

November 3, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Avenue
Montrose, CO 81401

Dear Mr. Jones:

Enclosed please find my comments on the draft Environmental Impact Statement (EIS) issued September 3, 1999.

1 In the interest of maintaining the "fast track" schedule the Forest Service, BLM and mine operators have chosen, I testified in the recent public comment meeting. This serves are written confirmation, clarification and amplification of those comments. My objectives remain as the have always been to support the responsible extraction of coal in the North Fork valley while protecting the individuals and organizations adversely affected by that activity.

2 The choice of a "fast-track" approach to developing the EIS (i.e. having the mine operators subsidize your salary, and the contracted expertise to perform the analyses and prepare the document) places the defensibility of the document in jeopardy from the outset. As such I believe you must make efforts "above and beyond the call of duty" to produce a document that is unassailable in appeal.

3 If my understanding is correct, the purpose of the EIS is twofold, 1) supply decision-makers with unbiased, accurate, analyses of the effects of decisions they are being asked to make, and 2) be defensible against appeal. The current document fulfills neither objective.

The first objective requires the unbiased application of validated models and defensible analyses to arrive at logical conclusions based upon realistic data. As the following comments indicate, such is not the case.

The second objective requires the creation of a document free from errors of fact, errors of omission, biases in treatment of subject matter, errors in modeling technique, and errors in conclusion. As the following comments indicate, such is not the case.

I would welcome the opportunity to discuss any or all of my conclusions or recommendations, and would also welcome the opportunity work with you to arrive at defensible, reasoned analyses. Please contact me if I can be of further assistance.

Regards,

Brent Hellecksen

North Fork Coal Environmental Impact Statement Comments

General Comments On Draft EIS Structure, Scoping, Alternatives, Analysis

4

Layout of Document
The layout and structure of the EIS document, appendices and figures is quite good. A large volume of information is organized so as to allow the casual reader access to the conclusions yet allow a more interested reader access to the underlying analyses. The Figures volume is especially useful.

5

Scoping
The synthesis of the data collected during the scoping process is well done. Having participated in most of the scoping opportunities, I believe that most if not all of the significant issues raised have been captured.

6

Additional reasonably forseeable developments (i.e. the request for additional leases both north and south of the North Fork of the Gunnison, significant expansion by Mountain Coal, outcome of the current EIS process for coal extraction beneath the West Elk Wilderness area, long-term increase or decrease in demand for coal, interruptions in demand for coal, etc.) were not identified or addressed.

7

Risks to renewable resource activities are inadequately addressed. The extraction of coal occurs for a relatively short time in any given lease area. The effects of subsidence, groundwater changes, surface disturbances, etc. may not become evident for decades and may persist permanently. The dependency of local agriculture on irrigation water supplied by water rights pre-dating the existence of all of the organizations involved yet arising out of, or adjacent to, the areas of interest is a significant land use issue. Justify the creation of a long-term, land use sensitivity analysis such as an EIS document without the thorough analysis of this issue.

8

Alternatives
The alternatives selected, with the exception of Alternative A, all provide for the lease of coal reserves significantly in excess of that indicated during the prior EA process. It was the lower levels of coal extraction activity postulated in the EA process that prompted the creation of the EIS document to begin with. One would expect to see an alternative with extraction activity below that which triggered the EIS process. Also, the staggered lease of coal reserves would likely mitigate many of the impacts associated with the expansion, and preserve the income stream to the various economic beneficiaries for an considerably extended time. It is also quite likely that it could be accomplished without sterilization of reserves. For an organization tasked with managing natural resources on public lands, such an alternative would seem to warrant some expenditure of effort to analyze. Justify the exclusion of reduced or staggered leasing alternatives from the analysis.

9

Analysis
The alternatives presented are analyzed using models which have not been shown to valid for use in this instance -- with no indication as to the accuracy of the results, and the analyses are so non-uniform in treatment that conclusions are nearly impossible to reach or defend. In many cases, a simplistic analysis is used to arrive at a simplistic conclusion. Often the issue at hand is much more complex than such an analysis is capable of addressing. Just as often, the analysis presented can be used to arrive at a conclusion exactly opposite to the one presented!

10

Recommendations
In addition to specific recommendation in subsequent pages, the EIS should include alternatives specifically designed to address the circumstances that prompted the process. The position of coal extraction within long-term resource usage patterns, local economics, renewable resource activities, etc. should be addressed. It simplistic to say coal mining has been here for over 100 years therefore more of it would be better. The same logic would apply to cholera. The analyses undertaken must for reasons outlined earlier, take great care to be unassailable in terms of accuracy, adequacy, uniformity, and impartiality.

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Air Quality

General Comments

11 In general, my impression of the air quality analysis section is that it is fairly thorough. It does depend upon conclusions drawn in other sections however, and to the extent that these conclusions are wrong, the air quality analysis will be in error as well.

12 A significant error in this section is that of the wind rose. While the data presented in Figure 8, may represent the wind patterns for the West Elk mine, they are in my estimation incorrect by approximately 90 degrees for the Garvin Mesa/Bowie No.2 area. Airflow patterns in this area are dominated by the "canyon effect." (i.e. down-canyon breezes at night followed by up-canyon breezes during the day). My observations, from our vineyard on Garvin Mesa, indicate the following as a typical pattern:

6 PM - 8 PM	Relatively calm
8 PM - 9 AM	Wind out of the northeast, peaking in velocity in the early AM
9 AM - 11 AM	Relatively calm
11AM – 6 PM	Wind out of the southwest, not as strong as northwest wind

With the exception of highly localized wind associated with isolated thunderstorms, the wind direction is rarely out of the southeast or the northwest. Mount Lamborn/Lands End, and the Grand Mesa, respectively, are significant impediments in these directions.

Specific Examples

The following examples are not meant to serve as an exhaustive listing of errors and inaccuracies relative to air quality. They are to serve as an indication of the condition of the current document.

13 Pg. 3-20, Para. 1 5 million tons per day should read 5 million tons per year.

14 Pg. 3-21 Sec. 3.1.3.5 ff. The analyses dependent upon wind direction and magnitude assumption associated with the wind rose are suspect (i.e. acid deposition, plume blight, dispersion modeling, etc.).

Summary

15 The wind rose and analyses associated with it are incorrect.

Recommendations

Obtain accurate wind direction and speed data for the area in question. Re-do the analysis with appropriate data.

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Noise

General Comments

16 The conditions under which noise measurements were taken are not always clear. Also, the method of averaging may mask the fact that it is the train whistle noise that is of concern, not the sound of the cars passing. A simple calculation illustrates the magnitude of the problem. During certain portions of a typical week a train is expected to pass through Paonia once every two hours, and Paonia has approximately 15 crossings requiring the engineer to blow the train whistle 3 times each. All of the whistle blasts are easily heard from nearby mesas (i.e. Garvin, Pitkin, etc.). One might reasonably expect to hear 45 whistle blasts in a two hour period. Thus, in the course of a typical night of 8 hours of sleep one could be confronted with 180 whistle blasts.

17 The overall level of effort seems to be quite inadequate. Very few actual measurements were taken and those were taken over two day period from 2 or three locations. Many "measurements" seem to be inferred rather than actually measured. Taking a sample as small as is indicated and then extrapolating makes conclusions based on the extrapolation certainly statistically invalid, quite probably wrong, and almost certainly indefensible.

Specific Examples

The following examples are not meant to serve as an exhaustive listing of errors and inaccuracies relative to noise. They are to serve as an indication of the condition of the current document.

18 Pg. 3-159, Sec. 3.12.3.1 Were noise measurements taken before or after the installation of noise suppression equipment at the Bowie loadout. If after, then the conclusions reached are dependent on similar equipment being installed as necessary. How will this be enforced?

19 Pg. 160, Table 3.12-1 See above.

20 Pg. 3-161, Table 3.12-2 If train whistle noise was included in the analysis, and if it is true that "Train noise was barely distinguishable from other noises in the area," then the elimination of whistles from trains in the North Fork should be immediately implemented. Further, if the train cannot be heard, the elimination of whistles should pose no increased risk to public safety. If these options are not viewed as credible then the preceding statement must be false. It is the train whistle noise that is of concern, not the sound of the cars passing.

21 Pg. 3-161 Are train whistle blasts included in the analysis? The conclusion that the average noise is not offensive is probably correct. This does not imply that the peak noise is not offensive. When a shotgun blast is averaged with the sound of walking through the woods, loading the chamber, releasing the safety and pulling the trigger, it is probably not damaging to hearing. In actual fact the peak value associated with the blast is of significant concern. Similar logic applies here.

22 Pg. 3-163, Table3.12-4 See comments on pg. 3-161 above. Also, train loading noise and exhaust fan noise are readily discernable under many weather conditions on Garvin Mesa, and certainly exceed the background noise of wind, and water.

23 Pg. 3-167, 3-173 Is whistle noise included in the analysis? If not, then the analysis is invalid because it ignores peaks noise levels. If so, then the assertions in the comments on pg. 3-161, Table 3.12-3 above apply.

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24

Summary

The noise analysis is suspect because the peak noise of train whistles is not clearly included when arriving at conclusions. The inclusion of noise suppression equipment at the BRL loadout during noise measurement is not clear. The conclusions regarding the intrusiveness of exhaust fan and loadout noise are not supported by personal experience or by analysis. In a rural setting, they are definitely distinguishable above the ambient noise. When activity is supporting 1 million tons per year of production, tolerance of loadout noise is more appropriate that it is at 5 million tons per year. When truck traffic is 234 passages per day, the noise associated with them is more tolerable than when there are over 900 passages per day. The occasional interruption of sleep by a train whistle is more tolerable than the interruption of sleep by 45 train whistles every 2-3 hours or 180 train whistles a night. The effects and the population's ability to tolerate them are not linear.

Recommendations

Perform a more thorough analysis including multiple measurements at multiple points (including several means) over a time period that is a statistically significant portion of a year.

Include, at a minimum, the following for each location:

Ambient noise at multiple points throughout the day and a commonly recognized comparison for reference.
Increase in ambient noise due to train passage.
Peak noise due to train whistle and a commonly recognized comparison for reference.
An analysis of the intrusiveness of rhythmic, harmonic noise relative to random rural background noise.

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Transportation

General Comments

The synthesis of the issues involved in transportation is well done, as for the most part is the characterization the existing facilities and their performance. However several errors, inadequacies in analysis, and glaringly one-sided assertions cause the transportation analysis to read as an advocacy document for the expansion of coal mining rather than a sensitivity analysis of the effects of that expansion. This is particularly true when comparing baselines used and conclusions drawn between the transportation section and the socioeconomic section. With respect to truck transportation, all analyses are performed using averaged data. On average, not many people are in the bathroom during a basketball game. However, during halftime the capacity of the system may be sorely tested. Similarly, one would expect an analysis of truck traffic to include information on peak loading of the system. This is of particular importance when extrapolations of system performance under a 420 percent increase in load will be attempted. Further, implying that the accident rate could decrease by the introduction of trained truck drivers, adherence to the speed limit, and increased public awareness is not only disingenuous but insulting to the reader and to Savage industries, the current operator of the truck fleet. For that mitigation to be available, Savage must currently be hiring only untrained drivers, who routinely break the law, and the public must have no awareness of the transportation of coal on the state highway. I doubt that such is the case.

25

26

The analysis of rail system capacity rests solely on comments made by a representative of a company with a significant incentive to support the increase in rail transportation. Again only averaged data is used. No analysis of historical peak rail usage, system outages, delay at loadout facilities, delays dues to maintenance activities, etc., is offered. Anecdotal evidence from the mine operators indicates that performance of the rail system is less than optimal at the 7 million ton per year level. Some options under consideration postulate a nearly 300 percent increase in train traffic. This warrants a more thorough analysis than is currently contained in the EIS document. A conversation with a railroad official, and a restatement of his assurances does not constitute analysis.

27

Specific Examples

The following examples are not meant to serve as an exhaustive listing of errors and inaccuracies relative to transportation. They are to serve as an indication of the condition of the current document.

28 Pg. 3-191, Public Safety, Para. 3 The author is correct in assuming the accidents would not increase proportionately with daily traffic. It is quite likely that it would increase at a rate greater than direct proportionality would indicate. Data supporting the relationship should be readily available and should be included. Regarding the proposed mitigation, see previous comments.

29 Pg. 3-192, Table 13.14-5 The average is useful but the peak may be more relevant. Historically, what was the peak? How long a duration were no trains passing through town? How are these relationships expected to perform under a 300 percent increase in traffic? What is the Union Pacific's demonstrated capability? There is no need for conjecture when the data are available.

30 Pg. 3-192, Para. 3 Reconcile speed reduction as a mitigation measure in the face of recently increased speeds introduced as a method by which the rail system can accommodate the increase in coal production (per Conners' comments at scoping meeting).

31 Pg. 3-195, Sec. 3.14.4.1/3.14.4.2 The author indicates that if the leases are not issued as per the proposed action the mine operators may turn to other sources of coal to fulfill their contracts. Thus the adoption of a scenario described in these sections may not decrease the number of trucks and trains in use in the valley. The

31 socioeconomic section however, assumes that upon failure to adopt the proposed action or an action resulting in additional tonnage leased over and above the proposed action, the results will bring about the near simultaneous closure of both BRL and Oxbow. If the socioeconomic scenario is to be believed, then one must assume that the trucks and trains are running around empty. If the transportation scenario is to be believed, then the trucks and trains must be filled without the benefit of the mining operations at Bowie and Oxbow. You cannot have it both ways! The baseline must be uniform between sections or no valid conclusions can be reached and each section separately can only be seen as an advocacy document for the expansion of coal extraction activity.

32

33 Pg. 3-195, Sec. 3.14.4.3 The introduction of higher capacity trucks will not result in a 38 percent decrease in ADT. Rather, it will result in a 260 percent increase as opposed to a 420 percent increase.

34 Pg. 3-196, Para 2. In this section the author finds it difficult to postulate how much the potential for accidents might decrease but in previous sections confidently predicts a decrease in accidents with an increase in traffic. From this one can only reach one of two conclusions. Either the data are being reinterpreted in each case so as to support a preferred conclusion, or the available data and analysis is so poor as to render conclusions unreachable. Either conclusion renders this section of the EIS vulnerable to appeal.

35 Pg. 3-197 Sec. 3.14.4.7 See general comments. The rail system's performance must be evaluated independently of Union Pacific's assertions.

36 **Summary**

Inadequacies in analysis, and unevenness in baseline usage and conclusions in this section render the EIS vulnerable to challenge.

Recommendations

Coordinate baseline information across sections. Include in the analysis hard, impartial, data on system performance including metrics mentioned above. Eliminate text that could be construed as advocacy of one position or another.

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Subsidence/Seismicity

General Comments

37 The EIS contains a useful primer on subsidence mechanics and does an admirable job of describing the geology and geological hazards of the area. It does not, however, indicate the assumptions under which straightforward application of NCB empirical formulae is appropriate (i.e. strata homogeneity assumptions, absence or presence of significant faults, stability of overlying surface geology, etc.) Nor does it contain any information on the actual conditions beneath the area of interest. All conclusions are dependent upon analogy to nearby, purportedly similar, conditions. Information presented by BRL on May 25, 1999 states a typical angle of draw at the West Elk mine to be 25 degrees, and at the Somerset mine to be 15 degrees.

38 The mines are located less than 2 miles apart, in the same geologic formation, yet the angle of draw observed varies by nearly a factor 2. This does not prevent the author from confidently predicting a maximum angle of draw of 21 degrees at a distance of nearly 3 miles, and (ignoring the application of a typical civil engineering safety factor of 5 times the worst case) proposing that mining be allowed to continue up to the edge of Terror Creek Reservoir and beneath the Terror Creek conveyance system. As I have indicated in many earlier forums, an angle of draw of more than 63 degrees has occurred at the Twentymile mine in western Colorado, where the typical angle of draw is reported by BRL to be 16 degrees. Thus, under unusual circumstances, an increase of 4 times the typical angle of draw is possible.

39 Any treatment of the topic must address issues such as these and must apply engineering safety factors that are appropriate. Failing that, analysis and exploration must be performed to justify the relaxation of the safety margin by proving that conditions capable of causing similar responses are not present in the area of interest. Anything less, has the effect of transferring the assumption of risk from those entities who stand to gain economically (i.e. BRL, BLM, Forest Service, State of Colorado, County of Delta, etc.) to uncompensated third parties (i.e. TDRC).

40

41 Although he is a recognized authority, an opinion rendered by Mr. Durrad does not constitute analysis. In other fields of engineering, one of several typical approaches to the modeling of complex phenomena is to construct a parametric model and vary the inputs to the model stochastically over appropriate ranges (e.g. Monte Carlo modeling). The model would then be validated against known conditions. This generates a nominal output with variations about the nominal which are statistically significant. A prudent engineer then looks at the ? sigma worst case, applies an appropriate safety factor to compensate for inaccuracies in modeling and in understanding, and designs to the resultant conditions. In order to be defensible against appeal, a similar process must be followed in the EIS. Currently, the issue of subsidence is treated incompletely and modeled inappropriately.

42 Regarding seismicity, the author flatly states, without justification, that "Mining induced seismic events as a result of longwall mining would be minimal." This ignores information presented in the very work cited in the text! (e.g. Arabasz, et.al.) Similar longwall mining in coal fields in Utah produces seismic events approaching 4.0 on the Richter scale. As the attached position paper indicates, this is considerably in excess of what the Terror Creek Dam and Reservoir have been exposed to in recent history. Further there is no discussion of possible constructive interference of seismic energy due to inhomogeneity of the strata (i.e. reflection along faults, transmission of energy along subsurface conduits, excitation of earthfill structures due to resonance, etc.) The author's statement, in appendix K, that he observed no rockfalls or slides during a Richter 5.1 event is encouraging but hardly constitutes analysis. Similar logic can be applied to the game of Russian Roulette. Once again, although he is a recognized authority, an opinion rendered by Mr. Durrad does not constitute analysis.

Specific Examples

The following examples are not meant to serve as an exhaustive listing of errors and inaccuracies relative to subsidence. They are to serve as an indication of the condition of the current document.

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43 Pg. 3-48, Para. 2 "Some cracks, especially in bedrock[,] may never heal." What guarantee is there that these permanent, subsidence-induced changes to the structure of the bedrock will not cause a change in groundwater flow, possibly to the extent that the transport of groundwater out of the Terror Creek/Hubbard Creek drainages is increased?

43a Pg. 3-51, Sec. 3.3.3.1 Indirect Effects "...because the leaks would not be offered." What does this paragraph mean? Justify the assertion of "no indirect effects" in light of the admission in appendix K that subsidence and seismicity can exacerbate landslides and rockfalls.

44 Pg. 3-52 Para. 2 "The impact zones shown on Figure 14 , Subsidence Potential Map, are based on conservative assumptions, and the actual impacts may be less than suggested on the map." In the absence of analysis, as indicated previously, justify the "conservative assumption" assertion. What is the nominal value? What are the 3 sigma high and 3 sigma low expectations? What margin of safety has been applied?

45 Pg. 3-52 Para 4 &5 The statement that "The duration of residual surface subsidence above longwall panels is relatively short..." is misleading. The gate roads and accessways are equivalent to room and pillar mining techniques and will likely respond as indicated in paragraph 4 (i.e. over decades). The analysis in appendix K (pp. K-20, K21) indicates a possible safety factor of only 1.88. This is asserted to imply that no subsidence will occur. However, no analysis of the long-term stability under flooded mine conditions, the stability of pillars exposed to mining-induced seismic events, the increase in stability grouting of the entries upon cessation of mining would offer, etc. is discussed. In Bureau of Mines documentation, subsidence risk has been identified by the insurance industry as an uninsurable risk requiring the implementation of publicly-funded insurance in several states. Justify the transfer of multi-decade subsidence and seismic risk from the entities deriving economic benefit from coal extraction to an uncompensated third party. (i.e. TDRC).

46 Pg. 3-53 Para. 2 Justify the conclusion reached in this paragraph in light of research information (Arabez, etc.) that indicates that the TDRC dam may, as a result of mining activities, be exposed to Richter 4.0 events when it has seen only a maximum of 3.0 events during the last quarter century.

47 Pg. 3-59 Para. 3 and Figure 14 In the absence of analysis, as indicated previously, justify the derivation of the 21 degree angle of draw. What is the nominal value? What are the 3 sigma high and 3 sigma low expectations? What margin of safety has been applied? What guarantee does the BLM/Forest Service provide that the strata will not respond as in the Elk creek mine and produce an angle of draw of 25 degrees? What guarantee does the BLM/Forest Service provide that unusual circumstances resulting in an angle of draw of 63 degrees do not exist near the Terror Creek reservoir or near its conveyance system?

48 Pg. 3-73, 3-75 Justify the conclusion of low impact risk in light of the previous discussion. Reconcile this with the fact that insurance for this "slight" risk is unavailable through the industry specializing in the assumption of risk.

49 Pg. 3-77, Para. 5 See comment for 3-73,3-75.

50 Pg. 3-79, Sec. 3.5.3.6 How will no subsidence be accomplished while accommodating the desire for accessways, gate roads, etc. to reach the Bowie East Pod of coal. Reconcile this with the statements on page 3-52 indicating that subsidence processes over room and pillar-type excavation " ... are likely to continue until all the voids created by mining excavation have been filled by caved stratum. " and " ...major occurrences of surface subsidence may be delayed for decades until the support pillars have substantially deteriorated or collapsed." See also comment on pg.3-52 para. 4 & 5.

51

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52 Pg. 3-106, Para. 1 What guarantee does the BLM/Forest Service provide that subsidence fracturing of the overlying strata will not cause an increase in the transfer of ground water out of the Terror Creek/Hubbard Creek drainages beneath the Grand Mesa to the northeast?

53 Pg. 3-109, Sec. 3.6.3.5, Para. 4 What guarantee does the BLM/Forest Service provide that the B-Seam will remain naturally dry following extraction/subsidence, and will not be saturated by the transfer of water from the Terror Creek/Hubbard Creek surface and ground water systems?

54 Pg. K-6, K-7, Sec. 3.6 The author firmly establishes the relationship between coal extraction and seismicity with references to the literature. He then proceeds to dismiss the risk to nearby structures and landforms with anecdotal evidence and Russian Roulette logic. (i.e. We got away with it last time so its safe this time too.) This renders the document indefensible.

55 Pg. K-19, Sec. 8.1 How, short of court action, will natural and mining-indeced effects be differentiated?

56 Pg. K-20, Sec. 8.2.1 See comments on Pg. 3-79, Sec. 3.5.3.6 above.

57 Pg. K-21, Sec. 8.3 I would expect similar concerns from WAPA. See comments on Pg. 3-79, Sec. 3.5.3.6 above.

58 Pg K-23, Option 1 Justify "conservativeness" of 25 degree angle of draw in light of 25 degree angle of draw reported by BRL at West Elk, and 63 degree angle of draw under unusual circumstances at Twentymile.

59 **Summary**
The issue of subsidence/seismology, while perhaps receiving the most thorough treatment relative to other topics in the EIS, remains open to challenge as to methodology, completeness, and certainly as to conclusions.

Recommendations
Clearly delineate, in the body of the EIS, the methodology used, and the verification and validation of the model used under the conditions expected in the area of interest (i.e. verify the degree to which past prediction has correlated with past performance under conditions similar to those found in the areas of interest). Also identify nominal values and the error bars associated with them. Identify clearly where conclusions are firm enough to be backed by the guarantees of those organizations economically benefiting (i.e. via insurance, bonding, mitigation plans, augmentations plans, compensation, etc.), and where the conclusions are backed by assertion.

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Socioeconomics

General Comments

60 The historical overview of conditions in the study areas appears to be complete but the time periods associated
61 with baseline data are not uniform. The selection of Delta county as the primary study area is of limited value.
62 The North Fork is a more useful delineation. Two significant concerns draw the assertions of this section into
63 question. No attempt is made to establish the validity of the model used to estimate economic effects. The
IMPLAN model is applied without establishing its appropriateness, validity, or accuracy. Dire consequences
(i.e. the simultaneous closure of the Bowie and Oxbow mines resulting in the immediate loss of 383 mining
jobs) are predicted, via IMPLAN, to accompany the adoption of Alternative A. The credibility of this assertion
64 will be addressed following. However, in 1985 an almost identical situation existed wherein the closure of
mines in the North Fork resulted in the elimination of approximately 350 mining jobs between 1984 and 1985
(see Figure L-14). All of the relevant economic data for the years following 1985 are available. The IMPLAN
65 model must accurately predict the effects following 1985 in order to have any relevance whatsoever. One can
and should postulate changes in circumstances and economic relationships between 1985 and 1999. However,
a single case example would establish the overall effects and arguments about the appropriateness of the model
66 for predictions in 1999 and beyond would be reduced to discussion of appropriate error bars. One would at
least expect to see a correlation matrix with reasonably high values in it. Similarly, other locally-proven
models exist (i.e. REDP) and should be run in parallel to confirm the results. Please justify the lack of
validation in the face of readily available data to do so.

A second and more pervasive concern is the apparent advocacy position adopted by the author as evidenced
67 by uneven and slanted applications of baseline data, blatant exclusion of data not supportive of his position,
and use of unsubstantiated opinion and "observation" to arrive at conclusions. For example, footnote data on
pg. L-33 indicate that the Bureau of Economic Analysis "...identifies 631 mine workers within the local study
68 area as of 1996." [Is that the primary, secondary or tertiary area?] However, on pg. L-7, Table 4, the same
organization is quoted as identifying 123 workers for the same industry during the same period! Numerous,
similar examples are available. The analysis of employment effects for each alternative is a pristine example
of the exclusion of data. The forecasts for employment activity under Alternatives B, C, and D include
69 approximately 95 jobs dedicated to reclamation activity following exhaustion of the mineral resource (see pg.
L-41 for example). Under Alternative A, no employment for reclamation activity is accounted for. From this
one can conclude one of two things. Either a failure to lease the proposed tract will cause Bowie and Oxbow
to immediately close and abrogate their reclamation responsibilities under State and Federal law, or the data
was omitted resulting in a conclusion more favorable to coal extraction expansion than is warranted. Neither
conclusion is particularly comforting nor defensible. Multiple, similar examples are available. Regarding
70 opinion and observation, the author "observes" (pg. L-29) that "Delta County has not yet experienced the rapid
in-migration occurring elsewhere in counties of Colorado's Western Slope region; ...". Yet, in Figure L-2 a
71 net in-migration of approximately 5000 people between 1991 and 1997 is illustrated, and growth rate of nearly
3 percent is postulated in several places in the section. Again on page L-29 the author asserts, without
justification, that a schism, based upon changing valuations of natural resource activity, is developing in Delta
County. Another example of "spin" occurs on pg. L-13, where the author, in an analysis of public services,
72 devotes several paragraphs to relationship between the mines, the ambulance service and local EMT's. This
culminates in the incisive statement, "The coal mines have many employees who are trained EMT's." Are we
to conclude from the prominence of this statement that the contributions of EmT's employed by the school
system, the medical services industry, or the local lumber yard are not significant enough to be included in an
analysis of public services?

73 Finally, there are absolute errors of fact in the section. By way of example, on pg. L-51, the entire Iron Point
Coal Lease Tract is identified as being located in Gunnison County!

Specific Examples

The following examples are not meant to serve as an exhaustive listing of errors and inaccuracies relative to socioeconomics. They are to serve as an indication of the condition of the current document.

74 Pg. 3-199, Sec. 3.15.2.2 The paragraph incorrectly ignores the rapid escalation of housing prices from 1990 to 1994 and implies that the decrease in price from 1994 to 1997 is function of decreasing in-migration.

75 Pg. 3-200, Sec. 3.15.2.4 Para. 2 Correlation does not imply causality! Given the analysis presented one could just as validly conclude that when local population growth slows or declines, Delta County loses jobs! I believe that it would be relatively easy to establish the fact that the recent influx of population has not been driven by economic opportunity but rather by lifestyle choice, with much of the new population accepting a decline in economic opportunity to locate in the area.

76 Pg. 3-205 Sec. 3.15.2.8 Justify the inclusion of job and income multipliers in the analysis of mining employment and the exclusion of them in the analysis of recreation employment.

77 Pg. 3-205 Sec. 3.15.2.9 Para. 3 See general comments.

78 Pg. 3-207 Sec. 3.15.3.1 Table 3.15.1 Reconcile lifetime estimates with assertions on pg. 2-212 and in transportation section regarding the availability of additional fee coal and additional federal coal. Also, analysis is made invalid by exclusion of B-Seam from Alternative A and inclusion in Alternatives B,C, and D. Reconcile differences in lifetime estimates relative to table 2-4 on pg. 2-25.

79 Pg. 2-208 Para. 5 Justify use of average wage of $39,500 in light of $47,600 reported average wage on pg. 3-201.

80 Pg. 2-208, Sec. 3.15.3.2 The paucity and quality of analysis does not support the assertions in this section. By way of example, reconcile the assertions regarding employment decline, population decline, school age enrollment decline, property value decline, etc. with the fact that during the proposed closure of Bowie and Oxbow, the loss of employees and their families will be more than offset by projected population growth in Delta and Gunnison Counties(383 x 2.4 = 920 persons, and 39,075 x 3% = 1172 persons). Such simplistic analyses are neither useful nor accurate.

81 Pg. L-3, Para. 2 This is a reasonable explanation of the recent decline in housing values for example. Justify its lack of inclusion in the appropriate sections.

82 Pg. L-5, Para. 4 The paucity and quality of the analysis presented could easily allow one to examine these numbers and conclude that Alternative A represents the best alternative from a socioeconomic perspective. For example according to the data presented in this paragraph, concurrent with the loss of 920 persons directly affected by coal mine closures, an influx on 1172 persons will occur. Most of these new arrivals derive their income from passive sources external to the area. Few of them have school age children. Therefor, property taxes will remain relatively constant yet a decrease in class size will result in improved educational opportunity. The analyses are inadequate.

83 Pg. L-5 to L-8 Sec. 2.4 No mention is made of the how the change from room-and-piller to longwall technology has affected the long-term employment prospects for area miners. The rapid increase in miner productivity in the 1990's coupled with the explosive increase in rate of extraction results in far fewer available jobs for a given available reserve. Furthermore, the rapid extraction of the reserve serves to generate additional wealth for organizations external to the affected area (i.e. parent corporations, Federal government, State of Colorado, etc.) while increasing the burden on the affected area.

84 Pg. L-26, Sec. 2.9 Dependence on Claritas data for derivation of social values is irrelevant.

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84 Claritas data is commonly used for consumer market research. Effects of income, wealth, education, etc. are ignored.

85 Pg. L-31, Para. 5 Assumption of increase in wealth as a function of increased extraction is invalid. The increase in wealth is transferred out of the study area and will likely have no effect. See comments on Pg. L-5.

86 Pg. L-33, Para. 1 Justify the increase in average wage of a mining construction worker over the typical construction worker.

87 Pg. L-33, Para. 1 Justify the increase in average wage of a mine worker over the typical that reported on pg. 3-201.

88 Pg. L-32, Table 15 Justify the negative values for annual extraction and employment for Bowie and Oxbow under Alternative A.

89 Pg. L-32, Table 15 Justify lack of reclamation employment under Alternative A.

90 Pg. L-32, Sec. 3.2 Justify unrealistic "conservative" assumptions for potential effects.

91 Pg. L-35, Table 17 Justify use of $18,200 wage number relative to average (computed without mining) in table 5 pg. L-9.

92 Pg. L-36 Tables 19, 20, and 21 Validate conclusions with similar data from US Steel closure. Illustrate overall effect with inclusion of projected population growth.

93 Pg. L-38, Sec. 3.2.4 Explain derivation of $11.4 million number.

94 Pg. L-39, Sec. 3.3.1 See comments on Pg. L-33, Para. 1

95 Pg. L-39, Sec 3.3.1 Para. 3 Justify exclusion of reclamation workers from Alternative A.

96 Pg. L-46, Para. 5 What is the mine lifetime extension assertion not valid for Alternative A as well?

97 Pg. L-50, Sec. 3.5.1 Because of flaws cited earlier, fiscal effects conclusions are invalid.

98 Pg. L-51, Sec. 3.5.2, Para. 3 Location of Iron Point Lease tract is wrong. Therefore analysis that uses this information is also suspect.

99 **Summary**

The entire analysis in the section can at best be viewed as invalid. The model and techniques used have not been validated and verified under circumstances similar to what they are currently being applied to. The applications of baseline data, comparisons, analyses and conclusions are extremely unbalanced and arguably slanted in support of increased extraction activity. No accurate compilation of baseline fiscal, public services, or socioeconomic information, is presented nor are the relevant trends in each established. Significant errors of fact exist. The assemblage provides no valid information upon which to base decisions and is most certainly vulnerable to appeal.

99

Recommendations

Perform a socioeconomic analysis using a validated model, altered in defensible ways to accommodate differences between previous and current conditions. Indicate what level of accuracy is defensible (i.e. 200,000 ±5000, 195,000 – 205,000, etc.)or Accurately establish an historical baseline for relevant economic parameters. The baseline data must be uniform with respect to time period covered, data source, trend analysis, calculation method (i.e. full vs. part time), etc. Apply analysis methods consistently over all alternatives and allow the data to suggest conclusions. Where multiple interpretations are possible, identify all of them. Perform analyses so as to examine defensible outcomes, not "worst case" scenarios indefensible by historical example. Avoid unsubstantiated "observations."

Terror Ditch and Reservoir Company

Issues Relating to Coal Extraction Near the Terror Creek Watershed, Reservoir, Dam, and Delivery System

100

August 4, 1999

Revision: F — Draft, pending final revision —

Terror Ditch and Reservoir Company
Issues Relating to Coal Extraction Near the Terror Creek Watershed, Reservoir, Dam, and Delivery System
Revision: G

1.0 Introduction and Overview

1.1 Operating Assumptions

The following represent the operating assumptions which TDRC believes govern the issues under consideration.

100b

1.1.1 Avoid impact to the Terror Ditch and Reservoir system in all cases. This is the TDRC preferred solution to all possible impacts.

1.1.2 Mitigate, at no cost to TDRC, where the mine operator, BLM, Forest Service, State of Colorado, and County of Delta, have chosen not to avoid an impact.

1.1.3 Compensate TDRC where mine operator, BLM, Forest Service, State of Colorado, and County of Delta, have chosen not to avoid an impact and where no mitigation is possible.

1.1.4 The risks created by the extraction of coal must be borne by those entities benefiting economically from that extraction.

1.1.5 For the following discussion, "coal extraction activity" is construed to mean all tunneling, driving of entries, room and pillar mining, secondary mining, longwall mining, borehole drilling, etc. In short it is construed the mean any disturbance of the existing strata.

1.2 Terror Ditch and Reservoir Company (TDRC) Water Rights

The TDRC water rights, from the West Hubbard headgate to Garvin Mesa were established in 1884. Thus, the seniority afforded these water rights supersedes nearly all of the water rights in the area of concern. The water right is characterized below.

101

1.2.1 Reservoir storage capacity of 598 acre feet (26 million cubic ft)

1.2.2 Decree of in excess of 11 cfs available throughout the year. This accumulates to a total of nearly 350 million cubic feet per year.

1.2.3 Right to call water, dated 1884, is superseded in time only by 2 minor decrees.

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1.3 Current Status

According to State of Colorado records and public comments made by the State Engineer's office on May 25, 1999, the dam and reservoir are currently considered structurally sound and are being operated in a responsible manner in accordance with the most recently available technical information relating to safe operation of dams and reservoirs in western Colorado. The feeder and delivery ditch systems, dam and reservoir are maintained and inspected yearly.

2.0 Concerns

2.1 Increase in Risk Due to Coal Extraction Activities

102

2.1.1 Instability of Local Geology

Without resorting to the published literature by Dunrud, and others, the instability of the local geology is readily apparent. Colorado Geological Survey data indicates significant and widespread geological hazards of multiple types. (Junge, 1978). In the past decade, one of the largest landslides in the world occurred at the base of the Ragged mountains near Highway 133, prompting an expensive road repair and stabilization effort on the part of the Colorado Department of Highways. Delta County abandoned the access road following Hubbard Creek (adjacent to Terror Creek) following series of landslides in the late 1980's. In 1997 and 1998 the Stewart Ditch and Pine Mountain Canal respectively were closed for extended periods to repair landslides at the base of Jumbo Mountain, and Garvin Mesa. In the area of concern, TDRC has incurred repeated expense stabilizing a slide adjacent to Terror Creek Reservoir. In 1998 the Clark Smith Reservoir, above the town of Hotchkiss, failed catastrophically and unexpectedly. Instability of the dam abutments is considered a likely contributing factor. Thus the area near the Terror Creek Reservoir, its feeder and distribution systems and its watershed must be considered unstable and prone to landslides. The area could respond unexpectedly and unpredictably to coal extraction induced changes in the background seismicity and subsurface rock strata.

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2.1.2 Seismically induced failures

The extraction of coal and the subsequent subsidence of the surface have been shown to cause seismic activity at considerable distance from the mine operation. Work done by Arabasz (Arabasz,, 1997) in the Book Cliffs/Wasatch Plateau coal fields of central Utah suggest the following conclusions:

1. Seismic events of Richter magnitude up to 3.8 are associated with coal extraction in western mines at depths from 260 m to 510 m.
2. Events are larger, regardless of extraction method, whenever routine elimination of seismic stress is not accomplished.
3. Depth of cover and magnitude of event are positively correlated (i.e. the deeper the mine, the greater the energy of the seismic events associated with it).
4. The seismic energy released, per unit volume of coal extracted, increases with the cumulative amount of coal that has been extracted from the mine (i.e. a ton of coal mined late in the life of a mine releases more seismic energy than a ton mined early in the life of the mine). The relationship follows the function $\Sigma E \propto (\Delta V)^{3.44}$, where ΣE is the cumulative seismic energy released from mining operations, and ΔV is the cumulative volume of rock removed. By way of example, if the change in cumulative seismic energy released by extracting the second ton of coal is 4.4 units, the change in cumulative seismic energy caused by extraction the 1001st ton of coal is 51, 015 units.

Figure 2-1 is derived from Arabasz and illustrates the Richter magnitudes, times, and locations of the largest mining-related events in the Wasatch Plateau/Book Cliffs coal mining areas.

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Origin Time (YrMoDy HrMn)	Lat. N (Deg-Min)	Long. W (Deg-Min)	Richter Magnitude (M_L)
810515 05:11	39° 28.86'	111° 04.72'	3.79
660423 20:20	39° 12.00'	111° 24.00'	3.67
681117 14:33	39° 31.41'	110° 58.16'	3.58
920705 12:22	39° 18.81'	111° 09.60'	3.52
810921 08:01	39° 35.48'	110° 25.47'	3.44
630424 13:33	39° 26.35'	110° 19.75'	3.42
751006 15:50	39° 04.30'	111° 26.80'	3.42
621211 10:28	39° 21.81'	110° 24.91'	3.40
630415 22:18	39° 35.54'	110° 21.13'	3.40
650114 12:30	39° 26.37'	110° 21.12'	3.40
810922 05:03	39° 35.35'	110°23.61'	3.35
871216 17:43	39° 18.70'	111° 12.92'	3.33
650629 07.46	39° 29.87'	110° 23.33'	3.27
920603 05:08	39° 19.04'	111° 09.80'	3.23
770209 00:42	39° 17.55'	111° 06.69'	3.20
770603 01:37	39° 38.89'	110° 30.42'	3.20
860214 00:56	39° 41.18'	110° 31.50'	3.20
671025 02.41	39° 28.24'	110° 21.05'	3.19
680602 18:59	39° 12.48'	110° 27.02'	3.18
910206 13:46	39° 29.99'	111° 04.61'	3.18
660730 03:25	39° 26.62'	110° 21.70'	3.17
700221 06:13	39° 29.30'	110° 20.70'	3.17
700414 10:40	39° 39.03'	110° 49.25'	3.14
671025 05:53	39° 27.62'	110° 20.46'	3.13
650627 19:24	39° 30.54'	110° 22.67'	3.12
910523 07:38	39° 17.89'	110° 08.92'	3.12
620907 16:50	39° 12.08'	110° 53.30'	3.10
640906 19:03	39° 10.93'	111° 27.81'	3.10
761126 22.26	39° 30.79'	111° 15.72'	3.10
930121 09:01	39° 42.73'	110° 37.26'	3.08

Figure 2-1 Seismic Events Identified as Associated with Coal Extraction Activity in the Wasatch Bookcliffs Area

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Figure 2-2 indicates that recent seismic events within 25 km of the Terror Creek/West Hubbard watershed areas do not exceed magnitude 3.10. The expected increase in background seismic activity associated with coal extraction would therefore expose the dam and reservoir to stresses and loading not previously experienced.

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FILE CREATED:  Thu Jul  1 10:21:43 1999
 Circle Search   Earthquakes=          6
 Circle Center Point Latitude:    39.000N  Longitude:    107.550W
 Radius:       25.000 km
 Catalog Used: PDE
 Data Selection: Historical & Preliminary Data

1984   06 12 044854.17  39.14 -107.39 *  1 3.00 MLGS      20
1984   06 12 044854.17  39.14 -107.39    1 3.00 MLGS      20
1988   11 19 124753.15  39.03 -107.33    5 2.70 MLGS      19
1994   09 26 012145.56  38.93 -107.48    1 3.10 MLGS       9
1994   11 02 020544.44  38.90 -107.49    1 2.80 MLGS      12
1995   01 01 124319.34  38.87 -107.45    1 3.00 MLGS      16
1995   03 14 221347.71  38.88 -107.48    1 2.90 MLGS      14
```

Figure 2-2: Magnitudes of Recent Seismic Events Within 25 km of Terror Creek Reservoir (Source: USGS NEIC)

The depth of cover near the Terror Creek reservoir ranges from 490 m to in excess of 600 m. This is near and beyond the upper bound of the depths analyzed by Arabasz. His conclusion that increased depth of cover corresponds to an increase in energy in a given seismic event leads to the conclusion that, other things being equal, the magnitude of coal extraction induced seismic events associated with coal mining beneath the Terror Creek Reservoir is capable of reaching numbers in excess of 4.0. The fact that the extraction will occur late in the life of the mine reinforces this conclusion.

By the definitions of the Richter and Mercalli scales, magnitude 3 to 4 seismic events are of sufficient strength to cause damage

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Magnitude	Intensity	Description
1.0 - 3.0	I	I. Not felt except by a very few under especially favorable conditions.
3.0 - 3.9	II - III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
4.0 - 4.9	IV - V	IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
5.0 - 5.9	VI - VII	VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
6.0 - 6.9	VII - IX	VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
7.0 and higher	VIII or higher	X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Figure 2-3:Comparison of Richter Magnitude and Mercalli Intensity (Source: USGS NEIC)

Thus the extraction of coal near the Terror Creek watershed, dam, reservoir, and delivery system exposes TDRC to additional risk of loss of water and the attendant loss of crops/livestock, of the occurrence of reconstruction and/or repair costs, and liability costs for personal property damage.

103

2.1.3 Subsidence-induced failures

The underground extraction of coal causes the strata of rock above to coal seam to collapse. For the projected mining height of 10 ft (Agapito, 1999), the strata from the coal seam up approximately 200 ft will collapse into rubble. From 200 to 500 ft., fracturing

will occur resulting in the creation of new voids in the strata. From approximately 500 ft above the coal seam to the surface, the strata is expected to sag, creating a subsidence of the surface elevation (Agapito, 1999) and (Waltham 1989). The amount of subsidence is difficult to predict but will likely range from the 0.3 x mining height experienced at the Somerset mine, to 0.6 x mining height experienced at the West Elk mine (Agapito, 1999). Where subsidence is allowed to occur, this results in surface depressions of from 3 to 6 ft.

The effects of subsidence are not limited to the area directly above and behind the extraction area. The "subsidence bowl" created following the collapse of the mine roof behind the advancing extraction face extends out from the edge of the mined area at an angle of draw measured from a vertical line up from the edge of the mined area. As shown in Figure 2-4, typical angles of draw in western Colorado and Utah coal mines range from 15 to 30 degrees (Agapito, 1999).

103

Mine	Angle of Draw (Degrees)	Mining Height (ft)	Nominal Depth (ft)
West Elk Mine	25	12	1000
Somerset Mine	15	10	500
Foidel Creek (Twentymile) Mine	16	8.5	1000
SUFCO Mine (Wasatch Plateau, UT)	15	11	1000
Deer Creek Mine (Wasatch Plateau, UT)	30	8	1500

Figure 2-4: Typical Angle of Draw for Selected Mines

However, in May 1994 at the Twentymile mine in northwestern Colorado, subsidence movement was transferred along a fault line resulting in a angle of draw of more than 63 degrees (Swanson, 1999). Further, Waltham (Waltham 1986) indicates that the angle of dip of the overall coal seam foreshortens the angle of draw at the upper end of extraction area and lengthens it at the lower end. The angle of dip of the coal seam in the area of concern is approximately 3.5 degrees to the north/northeast (Bureau of Land Management 1998). According to the mine operator's analysis, the area of concern contains a significant number of small faults, at least one major fault beneath Terror Creek and numerous fissures.

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Thus, under adverse conditions, the angle of draw could exceed 66 degrees near Terror Creek Reservoir. At the mine operators' projected depth of overburden near the reservoir of approximately 1600 to 2000 feet, the reservoir and dam could be affected by extraction activities nearly 4,500 feet away.

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Therefore, allowing for a very slim margin of safety of less than 1.2, the extraction of coal within 1 mile of the Terror Creek Reservoir, dam, feeder ditches, delivery system, and watershed represents an increase in risk to TDRC shareholders. Thus the extraction of coal near the Terror Creek watershed, dam, reservoir, and delivery system expoles TDRC to additional risk of loss of water and the attendant loss of crops/livestock, of the occurrence of reconstruction and/or repair costs, and liability costs for personal property damage.

2.1.4 Changes in Watershed

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The published literature is replete with studies of how the extraction of coal and subsequent subsidence and fracturing of the affected overlaying strata can cause changes in watershed and ground water flows. (Kadnuck and Fejes, 1994). This includes examples where streamflow was permanently decreased following the longwall extraction of coal beneath the associated watershed. (Cifelli and Rauch, 1986) and (Duigon and Smigaj, 1985). Due to the low transmissivity of the Mesa Verde formation, of which the coal seams and adjacent sandstone formations are a part, the primary source of water to supply the TDRC water right is local recharge and discharge (Bureau of Land Management, 1998). Groundwater that is transmitted by the Mesa Verde is assumed to migrate north-northeast and discharge north of Grand Mesa. (Bureau of Land Management, 1998). Fracturing of portions of the Mesa Verde formation, exacerbation of faults within the coal extraction area, or fracturing of the overlying alluvium/colluvium may result in an increase in the transport of water out of the area of concern and an increase in the discharge of water north of Grand Mesa. The most likely source for this increase in transported water is the Terror Creek and Hubbard drainages. This is the same water allocated to supplying the TDRC water rights. Therefore, the extraction of coal near or beneath the Terror Creek watershed exposes TDRC to additional risk of loss of water and the attendant

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loss of crops/livestock, of the occurrence of additional construction costs, and liability costs for personal property damage.

3.0 Avoidance of Impact

The following sections describe the conditions under which TDRC believes impacts due to coal extraction activities are avoided. Under these conditions, TDRC has received no gain for the extraction of coal, nor has it incurred any additional cost in terms of risk assumption, capital, or time.

3.1 Reservoir and Dam

105 3.1.1 Coal extraction activity must be prohibited from advancing any closer than 1 mile from the reservoir and dam

106 3.1.2 Seismic monitoring at the dam is required during upon exit from fee coal reserves and subsequent entry into federal coal reserves. This is needed to assure that dam and reservoir are not being affected by activities more distant than one mile

107 3.1.3 Compensation to TDRC for Independent Monitoring

For the duration of seismic monitoring, TDRC requires independent verification of seismic data. Compensation is required to reimburse TDRC for a cost it incurs solely due to the extraction of coal near its facilities. Federal, State, and county monitoring, while likely to be required by other agencies, is insufficient.

3.2 Feeder Ditches and Creek / Ditch Delivery System

108 3.2.1 Coal extraction activity must be prohibited from advancing any closer than 1 mile from West Hubbard ditch and associated feeder ditches above Terror Creek Reservoir, and from the delivery ditch and creek below Terror Creek reservoir

109 3.2.2 Flow monitoring

109

Independently verified, flow monitoring, similar in nature to what is currently performed, should continue through the duration of coal extraction activity and should be expanded to cover any additional areas or problematic areas that could be affected. Upon the termination of coal extraction activity, monitoring should continue for an additional 50 years, measured from the cessation of extraction activity or reclamation of all portals, whichever is later.

3.3 Watershed

110

3.3.1 Coal extraction activity must be prohibited from advancing any closer than 1 mile from the watershed supplying West Hubbard Creek, Terror Creek and all its tributaries

3.3.2 Flow monitoring

111

Independently verified, flow monitoring, similar in nature to what is currently performed, should continue through the duration of coal extraction activity and should be expanded to cover any additional areas or problematic areas that could be affected. Upon the termination of coal extraction activity, monitoring should continue for an additional 50 years, measured from the cessation of extraction activity or reclamation of all portals, whichever is later.

4.0 Conclusion

4.1 Avoidance

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The above restrictions allow TDRC some assurance that it will not be materially harmed by coal extraction activities near its facilities. The level of risk assumed by the shareholders of the company remains substantively as it was prior to coal extraction. TDRC neither enjoys economic gains produced by coal extraction, nor does it incur additional cost or risk by it. Any lesser arrangement exposes TDRC to additional risk and must be viewed as an attempt to shift a standard cost of doing business to an uninterested, uncompensated third party.

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4.2 Assumption of Risk

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It is the assertion of TDRC that extraction of coal near the Terror Creek watershed, dam, reservoir, feeder system and delivery system and inside of the 1 mile buffers stated above, expose the company to additional, as yet unquantified risk. This increase in risk is a direct consequence of the decision to extract coal in what TDRC deems to be unsuitable areas. The cost of assuming this risk must be viewed as a normal cost of business, similar in nature to the risk of loss due to fire or successful liability claim against a company. TDRC has no charter to, or desire to operate as an insurance or bonding organization. Therefore, this cost of business must be borne by those entities that benefit economically from the extraction activity (i.e. the mine operator, Federal Government, State of Colorado, and County of Delta). Should, as would be indicated by a refusal to accept by the conditions in Section 3, the entities mentioned choose to abandon avoidance as a method of addressing the impacts due to coal extraction activity, TDRC is placed at additional risk of damage to our water right and the attendant loss of crops/livestock, of the occurrence of reconstruction and/or repair costs, and liability costs for personal property damage that may occur. In this event, mitigation measures must be created such that our exposure to these losses is eliminated and we are indemnified from liability arising out of the choice to abandon avoidance as a protective measure.

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LETTER 36

Lawrence F. Herbert
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Mr. Jerry Jones
Bureau of Land Management
Uncompagre Field Office
2465 South Townsend Avenue
Montrose, CO 81401

November 3, 1999

Re: EIS Iron Point Coal Leases

Dear Mr. Jones:

This letter is your second notice of certain environmental externalities resulting from the Iron Point Coal Lease Tract. Specifically, the Environmental Impact Statement fails to consider the impact of Bowie's transportation of coal, the resulting probable congestion and loss of life, health and well being on Highway 133, the malicious nuisance on the surrounding community of trains exceeding the reasonable capacity of Union Pacific's Rail Line, unreasonable economic assumptions concerning the benefits of Bowie's low cost, high environmental impact expansion, and the fact the Bowie Resources has been responsible for operations bordering on criminally negligent loss of life and has failed to restore the environmental damage from Mine No.1.

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Once again, I request that No Action be taken by the Bureau of Land Management in the matter concerning the leasing of the Iron Point Coal Tract to Bowie Resources because it will result in excessive and unreasonable truck and train traffic, and other Environmental Impacts that will cause long term disruption of the health, well being, and harmony in the North Fork Valley.

5

Respectfully Submitted,

Lawrence F. Herbert

November 3, 1999

Mr. Jerry Jones
Bureau of Land Management
2465 S. Townsend Ave
Montrose, CO 81401

Dear Jerry,

1 To me, the main question the EIS needed to help us answer is "What is the carrying capacity of the North Fork Valley?" Or as Allen Belt so aptly put it in a Daily Sentinel article in May, 1999 "How much coal can be taken out without destroying the valley for the rest of the people who live there? How much can safely be hauled through the community is a critical part of the equation.... the BLM obviously has an obligation to help the coal companies satisfy as much demand as possible. But that doesn't mean the safety (and quality of life) of communities and individuals along the route must be sacrificed to that effort."

2 The EIS does not help us with this critical question. The consequences of not answering this question are just too great and irreparable to risk.
It is a narrow valley trying to accommodate residential, agricultural, recreational and industrial interests. We have logging trucks, gravel trucks, coal trucks, coal trains, delivery trucks, semis, and passenger vehicles all competing for the same limited space. And there is a limit to the amount of traffic, noise, and pollution that the Valley can absorb before someone begins to suffer. The mines, themselves, are not exempt from possible suffering. We have to ask, by allowing another longwall in the Valley are we jeopardizing the other 2 mines by increasing competition for trains, air emissions, water discharges, etc. These are questions the EIS should have addressed.

3 We need serious, thorough, accurate, pertinent, and easy-to-understand information. We deserve a true picture of what is going to be happening, what impacts there will be, ways to eliminate the impacts or ideas to mitigate them, who is responsible, and who can take action. This EIS does not provide us with what we need. It is critical that everyone drops their personal biases and tries to get a true picture of what we are creating.

4 The trains and traffic increases will cause safety problems. One cannot control people's stupid behavior. People WILL try to beat trains; people WILL try to pass in marginal situations. All it takes is one slip of bad judgement or one person feeling invulnerable. As planners this has to be taken into consideration. You can't create deathtraps and hope people will behave. Because, unfortunately, it just isn't the stupid ones that get killed. The entire community is in jeopardy.

5 I understand that one of the mines is under pressure to meet contracts, but that does not justify depriving a community of 25,000 residents valid information to assist in

5 assessments of decisions that will drastically affect their health, well-being, and safety.

6 My recommendation is that a new company is hired to do a new EIS. It needs to be someone who will take it seriously, spend time in the community and understands more than just the coal companies' point of view.

The following are a few examples of where the EIS falls short is providing thorough, accurate, pertinent, and easy-to-understand information.

7 **THOROUGHNESS** To be thorough you have to dig, not accept the first answer given, ask the right questions, look beyond the immediate, include various possibilities. This EIS failed in all the above.

Following is a brief sampling of the lack of thoroughness in this EIS

8 The most blatant example was the lack of alternatives offered. (Please include by reference WSHRC comments)

Throughout the EIS questions are raised, impacts pointed out, measurements described as over allowable standards with no further discussions as to mitigations, who is responsible, what can be or should be done.

9 Transportation section
P. 217 "...representatives from the CDOT did not indicate any problem with State Highway 133 handling the projected increased coal truck traffic.... a representative from the UP Railroad also voiced his opinion that the existing railroad can handle increased coal tonnage..." These are both individual opinions and can't be assumed to be factual. Compare these statements to the ones made by the CDOT representative I spoke to, who said there is no problem with the trucks being on the highway as long as they're properly licensed. But the roads are probably not designed for those loads. You not only have to look at weight but the road geometry- curves, pitch, shoulders, guardrails, etc. He suggested consulting the traffic engineer and materials engineer. He also said CDOT is reluctant to spend money on roads up here because the coal industry is so volatile, they may boom for a year or two then it dies. This was only one conversation but it raises a lot more questions than the first representatives "indication" of no problems.
Footnote: The materials engineer stated Hwy 133 (excluding the new section) was definitely not designed for heavy truck traffic and would require a lot of maintenance. This would mean even more traffic problems if there were continual roadwork.

10 There was no discussion of the problems traffic flow being interrupted by trains. The backed up traffic compresses the number of cars, increasing the danger of people passing recklessly.

11 The lack of shoulders increases the danger of Hwy 133 even more.

12 There was no consideration for loss of property values, especially for those homes close to the tracks or whose access is across the railroad tracks. (especially for unpermitted crossings)

13 Logging was mentioned, but only in reference to logging on the potential leases. Logging trucks on Hwy 133 from Colburn turnoff on McClure Pass, through Delta, to Louisianna Pacific are a serious factor to be considered. Plus major cuts will soon be happening up Stevens Gulch and on Grand Mesa. Logging trucks as well as gravel and coal trucks all need to be considered in the big picture of what the valley can support.

14 Railroad information was very sketchy. As far as I could tell, most information came from conversations with 1 person whose opinions are not shared by people I have spoken to at UP. We need to see detailed discussions of what changes they are planning to handle the increased volumes of coal. Is there ever a chance of 2 lines? What are their commitments, to the North Fork, to Powder River Basin? What options do we have for limiting trains noise at night? Bells instead of whistles at night? shrouding the horn to direct the noise downward? Can the engineer use his own discretion? The railroad is having to deal with this problem all over the country maybe they've come up with some creative solutions. The EIS did not even count RR crossings private and public. No discussion on crossing safety; No analysis of business cut off from access. No mention of impacts to Grand Junction where the south industrial area is completely cut off for 40 minutes at a time.
UP is talking of closing some crossing, we need to know which ones

15 <u>Air Quality</u>
As residents, we are interested in what the affects of NOx and SO2, particulate nitrate and sulfate and ammonium nitrate and ammonium sulfate have on adults, children, the river, wildlife, agriculture, etc. Is this the stuff that is causing asthma in children?

16 Cumulative emissions from Louisianna Pacific and winter heating units (coal and wood) were not factored in, especially during winter inversions.

17 How do the nighttime down valley winds and daytime up valley winds affect pollution? Will it linger longer and get backed up against the mountains?

18 In air pollution modeling for wilderness areas the increase B-ext was over the NPS allowable 10%. Nothing else was said, no mitigations, solutions, who is responsible, etc. This standard was indicated by the National Park Service staff. It that a valid criteria?

19 <u>Socio-Economic</u>
What is the long term and short term viability of the coal industry as a whole. We are going to jump through a lot of hoops to accommodate this expansion. Coal has died before.

20 Water
The impairment of the North Fork of the Gunnison River is a major concern to all residents. It must be protected.

21 ACCURACY means true statements, correct figures, correct calculations, consistency, comparisons of apples to apples, correct applications of methodology, facts not assumptions, conclusions that are factually supported. The EIS failed all the above

22 Air Quality.
The entire section was based on inaccurate wind directions invalidating the entire study.

23 Page 3-21 "Greenhouse gases are not a local issue" "Bowie and Oxbow would emit some very minor amounts of methane." I thought the mines on the north side of the valley had very high concentrations of methane. There have been 2 major fires in recent times because of methane. This problem needs more discussion.

24 Table 3.1-5 does not have accurate data.

25 The PLUVUE model only works with single source emissions. How can cumulative impacts be measured with such a model?

26 Noise
My favorite is "The noise from train horns is immediately in front of the train." See below for more examples.

27 Socio-economic (reference WSERC's comments)

28 Subsidence - I wish to include by reference Brent Hallenbeck's comments on Subsidence/Seismicity

29 EASY-TO-UNDERSTAND INFORMATION
I thought the tables were very confusing. Headings were not defined. Often the source of the figures was not clear or explained.
Procedures for the calculations were not included
Often there were no references to what methodology was being used.
Different standards seemed to be randomly applied

30 The organization and presentation of the material on noise was very poor jumping from topic to topic.

31 The following is a detailed analysis of the Noise section.
SECTION 3.12.2 NOISE REGULATION AND GUIDELINES
This section was very confusing, difficult to follow and understand. Colorado Regulation 25-12 was cited but not used for measuring sound of trains. Measurements should be 25 feet from right of way 100 feet from center of track. Train noise

31 including horns are not to exceed 80dBA -90dBA daytime L-max, 70-75dBA nighttime L-max not L-eq.

32 The EIS's use of guidelines for determining impacts of noise is very confusing. Sometimes it is FTA, sometimes FHWA and sometimes Colorado, and Jerry Jones was told EPA was used also but there is no reference to it.

33 The FHWA and FTA are primarily guidelines for highway traffic and rapid transit systems. The FTA document Transit Noise and Vibration Impact Assessment does provide procedures for measuring transit pass-bys. Even though it is for lighter diesels used in commuter rail not coal trains, it would be useful. The procedures for train pass-bys use L-max and SEL.

34 The EIS uses L-eq (sound readings averaged out over 1 hour) and L-dn (averaged over 24 hours), which are used in measuring highway traffic or commuter trains that are passing every 20 seconds or so, where the noise is fairly constant. Using those descriptors in our situation is misleading and inaccurate. There is no measurement for peak disturbance at time of pass-by. The measurement for the amount of disturbance received by the human ear at each pass-by gets diluted out over the hour or over a 24-hour period. It can be dangerously high at the moment of occurrence but after it is averaged out over 60 minutes or 24 hours the impact appears negligible. This is extremely misleading. Federal Transit Administrations book Transit Noise and Vibration Impact Assessment page 2-12 states "For moving trains, the APTA (American Public Transit Assoc.) guidelines are based on L max during a vehicle pass-by". L-max and SEL should be used for applying the standards of acceptable noise levels. SEL is sound exposure level. It takes into account duration as well as maximum decibel reached. It describes a receiver's cumulative noise exposure from a single noise event. In the FTA book SEL is used as the primary descriptor for the measurement of transit-vehicle noise emissions. No mention of these descriptors was found in the EIS.

35 The EIS uses FHWA limit of 67 dBA L-eq designed for vehicle traffic noise to analyze all noise. There are other standards. The EPA states that 55 dBA L-dn or less is "...requisite to protect public health and welfare with an adequate margin of safety." Colo. regulation for residential areas is 55 dBA L-max for daytime and 50dBA L-max nighttime. There is no mention of FRA standards. They are quite high, but many of our noise levels at L-max or SEL measured at 100 from center of tracks are higher than the railroad allows for themselves. Why weren't these standards used?

36 The methods of collecting data for the EIS are questionable and objectionable. The sampling of field measured noise levels was too narrow. An accurate picture of noise levels cannot be made one reading 30 seconds or 3 minutes long. Every acoustical consultant we asked, stated that they needed a minimum of several different weeklong readings to compose an accurate picture of noise impact.

37 Tables show that daytime and nighttime train noises were exactly the same. All train noises are different due to differences in engineers blowing their horns, differences in

37 locomotives, differences in speed, differences in weather conditions. That is why a larger sampling over a longer period of time is required.

38 Section 3.12.3 Equipment used for measuring sound was set on slow
Which is fine for baseline measurements. But for train pass-bys and whistle noise the meter should be set on fast. EIS never stated what settings were used for noise source measurements.

39 The EIS made conclusive assumptions based on very little hard data.
Paonia had 5 receivers. Each receiver had 2 baselines (night and day)
6 were actual field measurements, 4 were assumptions, using the highest reading of the three. Each receiver had 4 train readings (east & west, night and day) out of the 20 readings, only 5 were field measured, and 15 were assumed. There were no nighttime train readings for Paonia. The EIS repeatedly assumes that the eastbound trains are 10 dBA louder that westbound, based on Hotchkiss readings. When you check Hotchkiss readings, they show west trains louder in two out of the three readings. Such inaccuracies run through out the EIS. Page 3-159 states that readings were taken at 2 places on Garvin Mesa...only 1 was shown in the tables and no train, loadout, or truck noises were measured on Garvin Mesa where train horns have been measured at 80dBA L-max, and train vibration and noise is heard for 15-20 minutes. Other mesas should be checked as well.

40 Sloppy execution prevails. Each table is full of errors. Baseline measurements are not consistent, many mathematical errors, many incorrect numbers. Table 3.12-5 production figures used for noise calculations are not correct. Figure 30 does not show all the receptors.

41 This section is full inaccurate statements. Page 3-177 "51 to 56 dBA...noise level would be clearly audible during quiet nighttime periods, but the noise would not be expected to disrupt sleep or normal speech". Other studies contradict this... "subjected to 45 decibels of noise, the average person cannot sleep." Even though people say they "get used to the trains", the fact is the human ear never closes, and the human body reacts to the noise energy automatically with fight or flight responses even during sleep.

42 Another example of inaccurate statements is found on page 3-179 "The noise from train horns is immediately in front of the train."

43 The methodology is not clear and terminology is not defined, i.e. L-25, L-50, L-90 in various tables. Colo. regulations are in L-max, but were used in the tables compared to L-eq (an hourly average). Not comparing apples to apples. Also Colo. regs require measurements be taken 25' from source of noise or train right of way which is 100' from center of track. Comparisons were made from various distances. See table 3.12-10. The categories are not defined. Are they L-max or L-eq? If the noise readings are guesses they should be labeled as such.

44 There were 3 days of readings. What was the weather on the 25th? Was that the day

44 or night was raining? What settings were used on the meter?

45 The last paragraph on page 3-172 is confusing. What is a 30-second L-eq? Would it be L-max? What does "off the chart" mean?

46 Table 3.12-5 doesn't appear to be correct and later tables I believe are based on this date.

47 Garvin Mesa was excluded from any consideration in noise impacts from fans, conveyors, coal trucks and loadouts.

48 The section on noise levels on Hwy 133 is inadequate. It is based on 1996 ADT
49 figures. Bowie mine was not even operating in 1996. The 1998 figures are available. Why weren't they used? 1999 measurements have been taken including truck counts. Better explanations and definitions are needed. Table 3.12-8, were actual measurements taken for coal truck noise? What was the L-max used to calculate the L-eq and how was the calculation done. The text on page 3-169 last paragraph in section reads that for no-action 65/61 dBA L-eq at 100-ft/200 ft. for no significant
50 impact. The table however says 65/60. No mention is made that the proposed actions do show significant impact. Plus the L-dn in both cases is above FHWA 67 dBA criteria. In light of the many errors in the tables I would like the L-eq checked for the proposed actions. One would think the increase in coal trucks per hour from 15 to 40.75 would raise the L-eq substantially.

51 In conclusion I would like to see a cost-benefit analysis done. When all the direct and indirect costs are added up for this coal expansion mitigations, railroad and highway improvements, highway maintenance and repairs, EIS's, implementation and over sight payroll (county, state and federal), medical costs from health care and accidents, deaths, lawsuits, loss of sleep and productivity, business inconveniences and delays, road rage, prescription drugs, social security and social services, etc., etc., etc. Is there a net gain here? Is it worth the trouble? My suggestion is for gradual expansion. Let's try it at 12 MTY and see how we do.

52 Because CCDC thinks the NF can only support 2 longwalls and due to the limited choices of alternatives we are forced to support alternative A. But also want to establish for the record that we do not agree with or want to legitimize its conclusions.

Sincerely,

Sandra Higman
P O Box 1461
Paonia, Co 81418
970-527-3875
dhristow @gj.net

LETTER 38

"Elliot Jackson" <ejmuse@hotmail.com> on 11/08/99 03:21:05 PM

To: Jerry_Jones@co.blm.gov
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: Coal dEIS

Dear Mr Jones,

I am writing to express my concern about the drfft EIS for new coal leases in the North Fork Valley.

1 My principal concerns are, first, that ways of dealing with the huge increase in heavy train and truck traffic has not been realistically addressed; second, that the economic impact study that has been undertaken appears to deal only with the coal industry, and does not take into account what the likely effect a huge increase in coal mining would have on the other economies of the Valley; and third, that water rights in the Terror Creek ditch do not appear to be protected.

2 First, as regards trucks and trains: it is a gross evasion of the BLM's responsibility to the population of this valley to grant leases without insisting that, as a condition of this lease, the coal and train companies provide for a new train load-out. The kind of increase in truck traffic that is being proposed curls my hair: are we really talking about a 400+ % increase "daily"? This is, to put it mildly, an outrageous proposition. Truck traffic on Highway 133 is menacing enough as it is. Fatalities and serious injuries, to say nothing of a huge increase in congestion and pollution, must be considered likely results of such an increase.

3 Second, as regards economic impact: it seems that the BLM is concerned exclusively with the short-term health of the mining industry, to the virtual exclusion of any other consideration. "If" these leases are truly necessary for the preservation of the industry in the Valley, that is an important consideration, but hardly the "only" consideration as far as the economic health of the entire Valley is concerned. What impact, for example, will the huge increase in coal-related traffic have on ranching and agriculture in the Valley? Or on other alternate industries? I for one am tired of the knee-jerk presumption on the part of some, that if one isn't involved in coal mining in some capacity, one is not working at all. There are other vitally important economies in this Valley, and I would like to see a dEIS that addresses that fact. Particularly if, as stated, these leases are only expected to be good for 5 to 8 years. That's not really long enough, in my opinion, to justify an undertaking that stands fair to jeopardize the economic health of every other local economy.

4 Third, as regards water rights: To protect the agricultural economy, the dEIS should include a lease stipulation on the Iron Point tract, stating that a state-approved water augmentation plan be in place prior to mining within one mile of the Terror CreekReservoir, Canals or Collection Basin.

5 I, for one, am passionate about the health, environmental, economic and social, of the North Fork Valley. Please reconsider the dEIS in light of the above-raised concerns. Please require that the coal companies deal responsibly with a community they plan to make profits from. If nothing else, please require that the leases be staggered. If we are truly interested in the long-term economic well-being of this region, let us have less 'boom' and more slow, careful planning.

6 Thank you.

Elliot Jackson
PO Box 538
Peonia, CO 81428

LETTER 39

10/28/99

Bureau of Land Management
Attn Jerry Jones Fax# 970 240-5386

Dear Mr. Jones,

I am writing in concern for the Environmental Impact Statement being drawn up at this time for the coal being mined at the Milk Fork Valley.

As a concerned resident, I believe this to be the best time to look at & try to put some guidelines upon the direction that livelihood & quality of living in this valley are headed.

Sustainability is my main concern. Is mining the coal here at a faster pace going to preserve the existing jobs & quality of life we now share?

I think that protecting our water supplies, even the running of coal under agricultural water systems will violate (or potentially violate) pre-existing livelihoods & lifestyles.

I think that public safety here will change drastically with the increase of trucks & Railroad traffic. It looks like we may expect the doubling of cases of noise pollution, auto & coal flumes in our area, and the safety of our children.

In the open meeting, I remember the Railroad expert saying he was not sure how much of an increase they could actually haul out of our valley by rail, and he distinctly said they could not schedule trains to travel [illegible]

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late nite hauling (which would include load whistles through town in the middle of the night).

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The last issue that I feel a need to address is that of mine reclamation. The requirement of enforcement seems to be easily avoided by declaring a mine idle, rather than clean it up.

8

Thankyou for including my concerns in the EIS draft plan

Sincerely,

Donna Lovely
PO Box 65
Paonia, Colo 81428

LETTER 40

DEAR BLM:

HERE ARE MY COMMENTS ON THE DRAFT NORTH FORK COAL EIS DELTA AND GUNNISON COUNTIES, COLORADO SEPTEMBER 1999.

1 IT APPEARS THAT ALTHOUGH CONSERVATIVE PARAMETERS (ORAN ANGLE ETC.) HAVE BEEN USED IN DETERMINING THE BUFFER ZONE AROUND THE TERROR CREEK RESERVOIR NO CONSIDERATION HAS BEEN GIVEN TO USING A SAFETY FACTOR IN ENGINEERING DESIGN THAT AFFECTS PUBLIC SAFETY. IT IS COMMON TO USE A SAFETY FACTOR OF 5. IT WOULD SEEM TO BE PARTICULARLY IMPORTANT WHEN USING CALCULATIONS INVOLVING GEOLOGICAL PROPERTIES THAT ARE AT BEST ESTIMATES (GUESSES) TO USE A SAFETY FACTOR. THESE

2 CONSIDERATIONS BECOME PARTICULARLY IMPORTANT IN LIGHT OF THE FACT THAT IF THERE WERE A DAM FAILURE HUMAN LIVES COULD BE LOST. THE HUMAN OCCUPANCY DOWNSTREAM OF THE DAM INCLUDES TRANSIENT POPULATIONS IN CABINS IN THE MARRON CANYON AND PERMANENT RESIDENTS AT THE MOUTH OF THE CANYON. ALSO TRAVELERS ON THE HIGHWAY WOULD BE AT RISK. IN THE EVENT OF A DAM FAILURE ONE OF THE FIRST QUESTIONS TO BE ASKED WOULD BE ABOUT THE METHODOLOGY USED TO DETERMINE THE BUFFER ZONE. A METHODOLOGY THAT DID NOT INCLUDE A SAFETY FACTOR WOULD BE INEXCUSABLE.

3 IT IS THE RESPONSIBILITY OF THE LEASE ISSUING AGENCIES TO INSURE THAT EVERY THING IS DONE TO PREVENT A FAILURE OF THE TERROR CREEK DAM. THIS CONSIDERATION TRANSCENDS MONETARY CONCERNS. APPLYING A SAFETY FACTOR

OF 5' TO THE PROPOSED BUFFER ZONE WOULD
3 RESULT IN A BUFFER ZONE OF APPROXIMATELY
ONE MILE.

RAY McGUINNESS
117 MANTEY HTS DR
GRAND JUNCTION CO 81501
970-245-9846

LETTER 41

NOV 1, 1999

MR JONES,

THE DRAFT E.I.S. FOR NEW COAL-LEASING IN THE NORTH FORK VALLEY APPEARS VERY BIASED TOWARD MINING AND IGNORES MANY CONCERNS VOICED BY THE PUBLIC. 1

THE E.I.S. SHOULD REQUIRE UP GRADES TO THE RAIL SYSTEM AND INCLUDE THESE CONDITIONS IN ANY NEW LEASE. 2

THE D.E.I.S. ALSO IGNORES THE REAL IMPACTS TO ROAD SAFETY FROM THE INCREASED TRUCKING WITH BOWIES LEASE. B.R.L. SHOULD BE REQUIRED TO BUILD A NEW TRAIN LOAD OUT AS A CONDITION OF ANY NEW LEASE, TO HELP KEEP OUR HIGHWAYS SAFE. 3 4

I HAVE GONE TO MEETINGS VOICED MY CONCERNS, HEARD MANY DISCUSSIONS OF IMPORTANT IMPACTS TO OUR COMMUNITY, BUT ONCE AGAIN OUR GOVERNMENT GIVES US THE ECONOMIC HOGWASH OF JOBS AND INDUSTRY ABOVE ALL ELSE! THE B.L.M. SHOULD BE HELD RESPONSIBLE FOR ALL THE CONSEQUENCES OF THIER DECISION. 5

SINCERELY,

LETTER 42

"Debbie Miller" <cmmiller@co.blm.net> on 11/04/99 08:09:31 AM

To: Jerry_Jones@co.blm.gov
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: North Fork Coal Draft EIS

1 With regard to the North Fork Coal Draft EIS, we support the preferred alternative described as S-2.5.

2 We agree with the majority of the findings put forth by the North Fork Coal Working regarding their railroad study. They did state that the railroad crossing just west of Hotchkiss would totally block traffic in the case of a train accident. To the southwest is an alternate crossing and there is one to the east as well, just north of the North Fork Medical Clinic.

3 We would strongly encourage rerouting the railroad through North Delta as the U. S. 50 crossing is already creating a problem.

Thank you,
Carl and Debbie Miller
P. O. Box 96
Lazear, CO 81420
(970) 872-3391

- att1.htm

LETTER 43

P.O. Box 131
Paonia, Co 81428
Nov. 2, 1999

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S. Townsend Ave.
Montrose, Co 81401

Dear Mr. Jones:

Re: the draft EIS for North Fork coal leasing

1 Protection of existing water rights needs more attention in the EIS. There should be an alternative that completely avoids the Terror Creek irrigation facilities and collection areas.

2 For the other alternatives, the BLM should require a water augmentation plan before mining can begin within one mile of Terror Creek reservoir, canals, and collection area.

3 I am an irrigator and know that subsidence could ruin agricultural water rights, if the water is reduced in flow or disappears. The BLM has an obligation to protect existing water rights in this coal leasing process.

3a Increases of truck and train traffic are going to affect the socio-economics of our area. These effects need more thorough consideration in this EIS.

Thank you.

Sincerely,
Claire Moore

LETTER 44

Nov. 3, 1999

TO: Jerry Jones, EIS Coordinator
Bureau of Land Management, Montrose
FROM: John Moore
3828 Saddle Mountain Lane
Crawford, CO

Mr. Jones:

1 Along with most others in the North Fork Valley, I recognize that coal mining is, and will remain, an important facet of the Delta County economy. I also support those who believe that the analysis of environmental and economic impacts contained in the
2 DEIS is inadequate. A number of factors are not adequately considered: agricultural
3 water contamination; increases in truck traffic; the possible doubling of the number of
4 trains running daily - 24 hours a day; the elevated noise levels associated with the
5 increase in the number of trains; blocked grade crossings affecting businesses and, especially, emergency services (virtually no analysis of the need for over- or
6 underpasses); inadequate or postponed reclamation of mining sites. Granted, these critical problems are mostly "off-site" impacts but their analysis should have been
7 included in the DEIS or the appropriate state/local agencies should have been required to develop an second DEIS.

8 Support for mine expansion has been largely created by mine administrators, relying on the historical myth that mining is critical to the local economy - providing tax revenues and employment. However, every economist studying resource based economies (independent or university based and not funded by mining interests) has concluded that extractive economies are not stable and, consequently, not in the best and long term interests of anyone but the mine stockholders. Also, increasing use of long wall mining technology further reduces employment, and though Gunnison County receives more of the tax revenues, Delta County residents experience most of the impacts.

9 There is alternative analysis that is not addressed in the DEIS: rapid expansion of mine capacity in Delta County will require a tremendous investment and will certainly have significant impacts on residents and visitors, but if approved, will this expansion and investment run counter to some increasingly important trends. I believe that in the next ten years we will see a large investment by consumers in energy conserving technologies and that we will witness significant investment in wind, solar and on-site power generation by businesses and homeowners. Is there a long term need for this coal, other than for export to countries unable to make the necessary capital investment in alternative technologies? I do not want to have Delta County residents and visitors coping with significant negative impacts while mining companies reap huge profits from exports.

10 Thank you for considering these remarks. A response is not necessary.

LETTER 45

Oct. 30 '99
POB 216
Peonia CO 81428

Dear Ms. Jones -

My environmental group is not happy with a parts of the proposed doubling/tripleing of mining here. We feel the community is being over looked amidst all the grand plans. Not to mention the noise, there are long-term concerns about Traffic - Trucks & Trains will dominate the Valley. Water rights are vital to the health of our lives here and in future - a State approved water augmentation plan must be in place to protect the Terrar Creek Reservoir. It is clear that existing and proposed lifetimes here (your function as EIS Coordinator will be used up (10 years) and the community will have to live on with the consequences. Please do at least the minimum, conduct a proper economic analysis. Yours Truly. Jay McRoberts

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P.S. So many miners live here with their families, but I don't hear of any Y&K/Town planning violating the mines what are you waiting for? 60 days... We are forming a CB/ham network in case power goes down for long.

LETTER 46

To Whom It Concerns:

After Reviewing the Draft EIS carefully, I respectfully submit the following comments.

1 All of the alternatives included in the DEIS neglected the possible option of bypassing the irrigation facilities, the dam and the collection basin of Terror Creek Ditch Company.

2 Not enough attention was paid to the consequences seismic effects, which most certainly will take place, will have on the stability of the dam itself. It's an accepted fact that geology is not an exact science and what data was presented in the DEIS is based on experimental data for a region which is not known for its stability already.

3 There is a cabin in the affected drainage which is lived in off and on throughout the year by grandchildren, hunters etc. In addition there are humans living at the bottom of Terror Creek. What is the cost of a human life should the dam break? Who would be liable in the event of lawsuits for the destruction of life and/or property? Even if the risk is say, one in twenty, why take the risk? Where's the harm if the worst case scenario is planned for? If the worst case scenario does come to pass, we're ready; if it doesn't, what harm has been done? We would be remiss if we don't pay attention to the very name of the creek itself, Terror Creek. Certainly it wasn't given this name on a whim. Where's the

4 commonly employed "safety factor of 5" in any of the alternatives?

5 The DEIS also neglects sufficient mitigations of the off-site impacts surely to occur given the massive size of all the leasing alternatives presented.

6 The warning signs, speed limit reductions, proposed truck-safety classes for the increased truck traffic on Hwy 133 is grossly simplistic and inadequate. It should be mandatory, before any lease for the Iron Point Tract is permitted that a new train loadout facility is constructed.

7 Similarly, the massively increased train traffic, as a result of any leasing decision and the effects it would have on our community and the communities enroute, were not addressed. As part of any lease decisions crossing upgrades and overpasses at strategic locations need to be built.

8 Because the railroad tracks cross through the towns to be impacted so many times, a stipulation of any lease should require an improved communications system for Emergency Service Providers as well as upgraded and additional medical equipment should be located on both sides of the tracks should access to regular services be cut off by a derailment or accident.

9 Any of the alternatives presented in the DEIS for the Iron Point Tract must include a water augmentation plan which is State-approved and in place before any mining occurs within at least one mile of the Terror Creek Reservoir, canals and collection basin to assure that agricultural lands are not jeopardized by water loss of any kind. To neglect this would be unconscionable.

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Essentially what this all comes down to is about money, power and greed. The coal companies involved are interested only in what profits can be made by expending the least amount of time, money or resources in the process. And why should they care what is left of this area after the coal is removed? This is not their home. But it is mine. I have lived here for 24 years. I have raised my children and run a small sheep operation while both my husband and I worked to make ends meet during the majority of those years. It has been a good life and a healthy environment for our family. I think it can continue to be only if the leases are staggered so coal production can continue to ensure the economic stability of this valley. I have witnessed the effects the coal boom/bust cycle first-hand here. It is not a pleasant experience.

11

I ask that you give these comments your most serious consideration for the drafting of the final EIS. The impacts which would/could result from all of the alternatives presented in the DEIS being considered require your utmost moral and ethical consideration. To do any less would be a travesty.

Respectfully submitted,

Rita Murphy

Rita Murphy
November 3, 1999

LETTER 47

Gretchen Nicholoff <gretchen@hcn.org> on 11/03/99 01:39:47 AM

Please respond to Gretchen Nicholoff <gretchen@hcn.org>

To: jerry jones <Jerry_Jones@co.blm.gov>
cc: (bcc: Jerry Jones/MOFO/CO/BLM/DOI)
Subject: Comments on NF Coal DEIS

November 3, 1999

Attn: Jerry Jones, EIS Coordinator
Bureau of Land Management
2465 S Townsend
Montrose, CO 81401

Dear Mr. Jones:

The following are our comments on the draft environmental impact statement for the proposed Iron Point and Elk Creek coal lease tracts.

1 During the scoping process for this EIS, the lead agencies gave the public assurances that all socioeconomic impacts would be considered, not just the effects of losing coal mining jobs should the leases be denied. We are very disappointed to find no mention of the impacts of increased coal production on the non-mining sector of the economy. For example, our business, Nicholoff Summit Construction, LLC, will be negatively impacted by increased coal production, not only through traffic delays but also by discouraging retirees and others who are not coal miners from building in the North Fork valley. Why would someone want to build their retirement home in an industrialized zone where they can hear trains all hours of the day and night?

2 Many of our clients are retirees and small business owners who have moved here for a lifestyle that is incompatible with unlimited coal productions. We cannot understand why coal miners' jobs be considered more important than our business. We have lived in the North Fork valley for twenty-seven years and have built homes and business structures that add value to the tax base of Delta County. Any profits our business makes stay in the community, unlike the profits from coal mining that flow to companies located elsewhere.

3 Coal production, being a cyclical business, is inherently destabilizing to the local economy and perpetuates the boom and bust cycles that cause stress on local communities. During the last bust in the mid-1980's, many people whose coal-related jobs were lost defaulted on mortgages, car payments, etc., and the local service and retail businesses suffered, as well. Now that the valley has recovered from that bust period, why would we want to set ourselves up for another bust by mining coal at an unsustainable rate?

4 Shouldn't the DEIS at least analyze the possibility of staggering leases so that mining at a lower annual rate of production could go on for more than the predicted 5-8 years?

5 The DEIS certainly takes seriously the economic consequences of loss of coal mining jobs should the leases be denied. However, we wonder whose jobs these really are. There is a tacit assumption that the local folks are the ones getting these high-paying coal mining jobs. But in our experience, many of the underground and mechanics jobs have gone to people from out of the state, let alone from out of the county. Just last week we met a young woman who said she had followed her husband here from Illinois, since he had lost his job at a coal mine there and had been hired on here. This is a way of life for miners who must follow wherever the companies decide it is economically feasible to mine. It is most certainly not a way to plan for long-term community stability, and the DEIS has an obligation to discuss the impact of this transience on the local community.

6 From a public safety standpoint, the increase of truck and train traffic will be immense. How can the DEIS not require as a mitigation measure a new train load out facility close to the Bowie mine? We can only conclude that BLM does not take the problem very seriously, since the proposed mitigation for truck traffic, i.e., making drivers take safety classes, is simply ludicrous. It doesn't matter how many safety classes drivers take: with that many trucks on the road, accidents will surely happen. We just hope they don't involve school children who are picked up and dropped off from school buses all along Highway 133.

7 As for the train traffic, we wonder how long it will be before someone has a heart attack

7 8 9

in Hotchkiss while a coal train is blocking both sides of town. Clearly, the DEIS should discuss the importance of providing upgraded crossings and overpasses, as well as upgraded communications systems for emergency response vehicles. To require no mitigation for increased train traffic is unacceptable. Both safety and noise problems require mitigation in fairness to the community.

To summarize, we are disappointed in the DEIS because it downplays the negative impacts of proposed increased coal production and fails to address issues of vital importance to valley residents. We hope these problems will be addressed fully in the final EIS.

Sincerely,

Robin & Gretchen Nicholoff
3635 N Road
Hotchkiss, CO 81419

LETTER 48

Mr. Jerry Jones, EIS Coordinator
Bureau of Land Management
South Townsend Ave.
Montrose, CO 81401

October 29, 1999

Dear Mr. Jones,

I am writing in response to the recent dEIS regarding coal development in the North Fork Valley. I am a resident of Garvin Mesa above Paonia, where I have lived for fifteen years with my husband and our sons. Several times I have written in regard to the many negative impacts of increased coal production in the valley.

1 As a shareholder in the Terror Ditch and Reservoir Company, I insist that any plan ensure the integrity of the water system upon which we depend. We filter our ditch water for use in our home, and irrigate the nine acres we own. I ask that you turn your attention to an alternative that bypasses the Terror Creek Ditch Company's irrigation facilities and collection basin. A state approved water augmentation plan must be in place prior to mining within one mile of the Terror Creek Reservoir, canals or collection basin.

2 My second strong concern is about the dramatic increase in truck traffic on highway 133 with the proposed level of increases in coal production. It is unacceptable to increase the daily capacity of truck traffic, currently under 200 a day, to a projected 976 trucks a day on the highway. 4175 Drive Road, which intersects 133, is our road into town and the traffic at that intersection is already at its limit as far as safety goes. There has to be an alternative to this staggering increase in heavy truck traffic.

3 The sound of trains and of loading equipment is presently quite disruptive to sleeping. From our house on R Road, we can clearly hear, day and night, the rumble of the loading equipment and the vibration of the trains, sometimes three a night, not to mention the whistles blowing, which if I have not already been awakened by the train's vibration, will wake me in the night. The increase in the number of train crossings a day, which will

4 increase noise, impede the flow of traffic and present new threats to safety in our county, are of deep concern to me.

5 I ask emphatically that the big picture be given priority. While the mining of coal contributes to our community, it is but one segment of the growing economy in this area. Development of coal to the extent that it is being proposed will do great harm to the other sectors of the economy that are poised for healthy growth at this time. Tourism, retirement homes, entrepreneurial efforts and telecommuting will all suffer greatly from an over dominance of the coal economy and its many negative effects.

6 Please hear me. I am not anti coal but I am pro diversity in terms of the socio-economic character of our community. To ensure a prosperous future in this area, all aspects of the economy must be supported so that twenty or thirty years down the line, when these coal reserves have been exhausted, we do not fall into the harshness of the bust cycle. We need your help to come to a reasonable balance of livelihoods in this area. I ask the BLM to implement the populace based intentions outlined in CEQ and NEPA regulations. Attention must be given to safeguarding the quality of life here in the North Fork Valley.

7 I ask you to honestly weigh the outcomes of the proposed level of growth in coal development and recommend a limit 25% growth over the next five years. We look to you for a solution that takes into consideration all of the people of the valley and the health of a diversified economic structure.

Thank you for your time.

Sincerely,

Meg O'Shaughnessy
4163 R Road
Paonia, CO 81428

LETTER 49

10/28/99

Bureau of Land Management
Att: Jerry Jones

Dear Mr. Jones,
I am writing to you concerning the environmental impact statement that is being drawn up regarding to coal mining increase proposals in the North Fork Valley.

My first concern is with the proposed increase in trucking and train transport that would be necessitated by an increase in coal production. In my opinion this would lead to safety problems as well as noise and inconvenience to the citizens of this valley. We would all pay a price for the enrichment of the few. 1

Protection of the water supply is also a concern. I believe that mining coal under existing agricultural waterways could adversely effect many people. 2

I would also like to address the issue of mine reclaimation. I would like to see the existing non productive mines be reclaimed instead of being declared idle to avoid that costly process. 3

Thank you for including my concerns in the EIS draft plan

Sincerely,
Anthony Peters Paonia, Co

MR. Jones 1/2-99

1 The BLM's draft Eis for new coal leasing in the North Fork Valley is not acceptable. To insure and protect our agricultural economy please include a lease stipulation on the Iron point tract requiring that a state approved

2 water augmentation plan be in place prior to mining within one mile of the Terror Creek Reservoir, Ccods or Collection Basin.

3 The Eis does not address any of the concerns from the community and the dangers of serious accidents that can happen with such an increase in production.

4 What is an Eis good for if it doesn't look at the inpacts, it's a waste of our tax dollars, and a crime against a rural community.

Sincerely Ken Ralfen

LETTER 51

November 3, 1999
Bureau of Land Management,
Uncompahgre Field Office,
2465 S. Townsend Avenue,
Montrose, Colorado 81401
Attn; Jerry Jones

1 How many blondes does it take to buy the Olympic shooting team Ear Protectors? " Zero", because this dEIS Team claims that when sound is averaged out over time the gunfire would be barely audible.

2 Question: If you had son or daughter, which road would you prefer them to travel on? A) A one lane, icy road, with numerous deer crossings, and an occasional commercial vehicle? Or,
B) A one lane, icy road, with numerous deer crossings, a truck traffic sign, and 20 ton coal trucks doing 55 miles per hour, turning onto or off the highway every 50 seconds?

This dEIS Team answers "B", with speed obeying drivers (who's driving now?) and a sign, "The accident rate could actually decrease rather than increase" (Page 3-191)

3 Like wise for train traffic. This EIS Team concludes that significant increases in train passings (albeit with some mitigation) could lead to lower accident rates. (Page 3-192) This is the opposite of what most towns in America have experienced and if they have evidence of otherwise they should document it.

4 This Draft EIS is a completely biased document that reads more like an advocacy paper than an EIS. It was our understanding that a dEIS would identify ALL possible and probable impacts due to some new Federal decision. This document instead rationalizes excuses, cites loopholes, makes assumptions, changes baseline data, and substitutes opinion for science. It would behoove the EIS managers, and the Supervisors' of said managers to take a realistic look at this dEIS now with the idea of getting rid of the bias/advocacy even if it means starting over. The tone and basis of this dEIS can only lead to further delay and appeal.

5

Their observations in the social values analysis, that "there is evidence of growing difference in social values of newcomers versus long time residents. It is generally believed that newer residents are less supportive of traditional rural are natural resource activities including, ranching, farming and mining." This is confusing, irrelevant and unsubstantiated. What is a newcomer. How did they arrive at this conclusion? This statement is also remenecient of those uttered and gossiped about by a segment of the mining community that attempted to divide the community. Speaking for the CCDC we are very supportive of farming and ranching. We also have never expressed concerns for the now "Arch Mine" a world record producing coal mine. Yet we have major opposition to the proposed alternative. We believe that some is mining is good, but, it doesn't follow that more (unlimited) is better! So are we to be characterizee as Pro-Coal or Anti-Coal? Observations like this can only have originated from talks with mine managers and have no vorocity or documentation behind them.

6

At this time we would like to include for the record, all our previous comments and legal actions going back to the First EA up to the present time. CCDC would also like to *include by reference* all comments made by The Western Slope Environmental Resource Council (WSERC), Brent Hellecksen, and Sandra Higman.

CCDC would like to specifically comment on some other examples of bias or incompetence that are troubling in their nature.

7

First and foremost is the EIS failure to analyze properly the option of granting only one lease. It is only common sense that this option could solve many of the problems associated with this technology-based expansion. Living in such narrow corridor accentuates all the physical problems of moving the coal out of the valley. Most importantly it has been said publicly that a ROD could be given that "lets" only one lease. It would seem an obvious violation of NEPA to allow even the possibility of such a ROD without allowing, actually mandating, a thorough comprehensive analysis of just this option alone.

8

No-Action 3.15.3.2 .... "Mining would continue to current extraction rates until reserves are depleted." One sentence!

The dEIS doesn't go into depth on the reserves of each mine. When would they be depleted? Why doesn't the dEIS discuss the other available seams to

9 be mined in their fee coal? Maybe there is a natural timetable that would be actually beneficial to the community. A no-action alternative could be extremely beneficial if analyzed in fair, objective light. NEPA demands this!

10 In the Socio-economic section it then continues on at length how this (Alternative) will lead to immediate economic ruin, large unemployment, extreme loss of revenues etc. This is reminiscent of our previously published "letters to the editor" in our local papers. (It fact it reads like it was plagiarized) If the mines don't get everything they want, ALL mines shut down and there is nothing left to support the community? This is totally unfounded, unprofessional, the worst case of advocacy and should be seen for what it is, and disciplinary action taken!

11 Yet, in dismissing a one-lease alternative, the dEIS claims issuing either lease... "does not guarantee there would be less coal production." (3.14.4.1) In claiming this, it implies that production figures used in the entire analysis may be too low. If in this analysis, the dEIS team has determined that two mines will do the estimated work of the three mines discussed, their projected figures may be too low by as much s 30%. Have they determined as well, what percentage of volume can be picked up by one mine? What does this bring to RFD analysis?

12 To do a two(or three)-day noise study shouts incompetence, to use a rainy day as one of those day's screams of bias! In talking to experts around the country including the U.S. EPA all agreed, any significant study would take place over minimum of 30-60 days and would preferably stretch out over varying seasons, and include many multiple locations. We would suggest as many as two dozen stations from Somerset to N. Delta, both along the rails and away from them. Members of CCDC would be happy to aid the dEIS team in this monitoring process as well as put them in touch with noise pollution agencies so to help them gain a better understanding of the issues before them.

13 All sections (Trans., Socio, Air, Geology, etc.,) should begin with a comprehensive yet simple explanation of the science, abbreviations used and potential impacts. An example follows:

14 

"Noise pollution is man-created noise harmful to health or welfare."
Transportation vehicles are the worst offenders, with aircraft, railroad stock, trucks, buses, automobiles, and motorcycles all producing

14

excessive noise. Construction equipment, e.g., jackhammers, riveters, and bulldozers, is a second prolific noise producer. Noise intensity is measured in decibel units. The decibel scale is logarithmic; each 10-decibel increase represents a 10-fold increase in noise intensity. Human perception of loudness also conforms to a logarithmic scale: a 10-decibel increase is perceived as roughly a doubling of loudness. Thus 30 decibels is 10 times more intense than 20 decibels and sounds twice as loud; 40 decibels is 100 times more intense than 20 and sounds 4 times as loud; 80 decibels is a million times more intense than 20 and sounds 64 times as loud. Distance diminishes the effective decibel level reaching the ear. Thus moderate auto traffic at a distance of 100-ft (30 m) rates about 50 decibels. To the driver with his car window open or a pedestrian on the sidewalk, the same traffic rates about 70 decibels; that is, it sounds 4 times louder. At a distance of 2,000 ft (600 m), the noise of a jet takeoff reaches about 110 decibels approximately the same as a riveting machine or auto horn only 3 ft (1 m) away. Subjected to 45 decibels of noise, the average person cannot sleep. At 120 decibels the ear registers pain, hearing damage begins at a much lower level, about 85 decibels.

15 **(Because of this 45 db threshold),** From here might follow a detailed, in depth analysis of what the costs of sleep depravation really are, loss of productivity, higher on the job accident rates, higher vehicular accident rates, mental and physical health problems that would arise, and what the honest associated costs of these symptoms are.

16 Higher social service costs. In rural areas, potentially dramatically higher Medicare, and Medicaid costs, through office visits and prescription costs, Theoretically, if we analyzed the impacts from point of source through point of destination the costs from this impact alone could be significant in relation to the profits made at the Federal level.

17 All the different noise impacts analyzed, then the suggested possible mitigations and what affect these would likely have, would follow.

18 This dEIS should incorporate the site specific and cumulative impacts of all possible federal actions, from exploration and well pad applications to drill, to the currently proposed actions, to all reasonably foreseeable future leases and licenses.

19 Furthermore, since one of the proposed actions is an exploration license, it is entirely reasonable to assume that future lease applications and eventual development are highly likely in this area, as well as other areas bordering

existing mines. In addition, since the life of mine periods of the new leases are relatively short (5-8 years), it is also reasonable to assume that there will be further exploration, leasing and development of the areas surrounding the proposed new leases in the immediate future. All of these probable future actions are directly related to and consequences of any proposed decision in this EIS to license exploration of federal coal reserves or lease for development of federal coal reserves.

19

For these and more reasons, we believe a comprehensive, long-term analysis is necessary in this EIS. In fact, this is what CCDC argued in the response to the 1998 EAs and in scoping for this document. And, we believe this is what the BLM promised when it undertook this EIS. (Please see 12/18/98 BLM news release, which reads: According to [BLM Regional Manager Allan] Belt the EIS will provide a single, comprehensive watershed-based analysis of coal mining activities in the North Fork Valley. "This EIS will provide for current and future development of public coal resources in the North Fork while protecting the environment and the quality of life in the North Fork Valley." In the news release Belt goes on to state, "We're hoping that the local community can come together with the coal companies and develop a common vision of what the North Fork should look like 10 years from now.")

20

The dEIS falls far short of this mark. Only the three currently proposed actions are considered; numerous reasonably foreseeable developments are arbitrarily excluded from the document; RFD scenarios are not explained or supported; socio-economic, political and market trends that directly affect our coal production are ignored; cumulative impacts disclosure and analysis are incomplete and inadequate; and since they are based on a faulty RFD scenario, disclosure and analysis of even site specific impacts of the proposed actions are also incomplete and inadequate.

The community has overwhelmingly responded, "Too many trains." Yet no where has this one fact gained entry into this process as promised by Alan Belt.

21

An example of omission is: This EIS is mandated to take into account the all cumulative impacts in a given area. Yet, Terror Creek Watershed is already impacted from a potentially large timber sale (the area is already marked and waiting). This sale will have a definite negative impact on the quantity and quality of water. Are we to lose water both above ground and below ground

22

22

23

without a note of discussion and analysis? This issue needs to be also included, as it will add to all the impacts associated with this type of activity, trucks, dust, noise, safety, revenues, etc.

24

Instead this dEIS chooses rather to exclude, diffuse, fanaticize, or confuse any issue that would acknowledge and gives credibility to this broad range of cumulative impacts. This dEIS clings to the belief that if these leases are not granted, that all coal mining in the region will cease and the sky will fall. CCDC differs; we think coal mining is but one piece of a diverse economic pie. That this county's economic strengths lie in its people, geography, weather, quality of life and natural beauty.

Sincerely yours,

Richard Rudin

Richard Rudin
CCDC

Comments on:

11/3/99

Draft
North Fork Coal
Environment Impact Statement
Delta & Gunnison Counties, Co
Sept 1999

To Jerry Jones, c/o the BLM, Uncompagre Field Office, 2465 S. Townsend Ave. Montrose, Co. 81401

1 I am a property owner on Garvin Mesa just north of Paonia, Co. The physical address is 4162 R Road which is essentially in the middle of Garvin Mesa. Around 20 years ago, we went through this same process in which the Westmoreland Coal Company was desiring to lease BLM land for coal mining purposes. In the end, it was agreed that mining would not occur beneath the Terror Creek drainage which is an obviously prudent choice to satisfy all parties involved. Later, the coal company located a ventilation fan very near Garvin Mesa which all of us vigorously

2 complained about and was later moved. Let's not make the same mistakes again on the noise factors!!!!!!

3 Why does the western portion of the Iron Point Lease Track have to extend beneath Terror Creek in the first place? It could easily be shaved off without substantially reducing the total area. If I had to choose any alternative other

4 than no mining, I would support Alternative D with subsidence protection provided to Terror Creek and Terror Reservoir as well as Hubbard Creek.

5 Of equal importance, is the intelligent choice of where the ventilation fans will be allowed to be located. Please make sure that they are far away from populated areas so they don't compromise one of the main reasons why people choose to live on Garvin Mesa or other nearby areas. Make sure the fans are pointed away from populated

6 areas by using common sense! Back in the 1970,s, the BLM was able to use good judgement when it came to leasing coal bearing lands. Let's do it again so everyone can benefit. Thank you for your consideration.

Campbell Stanton
503 Reed Mesa Drive
Grand Junction, CO 81503
970-243-9886

LETTER 5

20 oct 99

Dear BLM,

concerning the Coal expansion
EIS.

Problems:

1. removing Coal too fast creates many problems.

1 a. Irrigation water loss

2 b. traffic conditions

3 c. fast growth

4 d. build up of too much infra-structure.

5 e. demand on schools & services.

6 f. train crossings

7 a more reasonable expansion would be a better choice.

Sincerely,

Bill Tomlinson

290

1 Nov. 99

Dear Jerry Jones,

the D. EIS frightens me on the proposed Coal development.

1 [1] 1. Train Speed & number per day.

2 [2] 2. Truck traffic unacceptable

3 [3] 3. Iron Point - too much too fast

4 [4] 4. Aaron Creek - irrigation water loss

5 [5] 5. loss of property Value

6 [6] 6. BLM has an opportunity to control permits and not destroy a lifestyle we honor.

You can make a difference

Please be reasonable,

Bill Fenbrook

LETTER 55

TRAIN DAMAGE TO PRIVATE PROPERTY

Re: Coal Mine Expansion EIS

Dear Mr. Jones,

1 I hope you can help me. I do not have the resources to fight the train by myself. Since the train represents coal and the livelihood for many, it is so powerful that it is a law unto itself. No one, certainly not the Town of Paonia, has the guts to confront the train for its blatant disregard of the law.

As you consider the impact of the train, I hope you will consider **VIBRATION**.

2 Vibration from the train is *literally* destroying my home. Vibration has caused my foundation to crack and settle unevenly. You can easily imagine what this has done to my walls and floors.

For a long time I could hear, but not feel, the train. In fact, the first time I felt the train, I did not know it was the train I was feeling. A year ago I would feel the train once every 3 or 4 weeks. In the last year the frequency has increased. Now I feel the train nearly every day, sometimes more than once a day.

When I "feel" the train, what do I mean? Doors, windows, and objects in the house rattle. Lying in bed I can feel the vibration. These phenomena occur only when the train is passing, but not every time. Why?

I believe there is a correlation between damaging vibration and train speed. The train's speed does vary; lately they have been traveling much faster. Sometimes the speed is constant; sometimes it is accelerating or decelerating as the train goes through town. The train just goes according to its own whim and without regard for the damage it is causing.

3 I understand that the train's speed through town is regulated. Obviously that system does not work. Additional regulation would create an enforcement nightmare. The temptation of corruption would be too great.

4 I suggest that the train be allowed to set its own speed. In exchange, the train would assume responsibility for all vibration damage. Of course, before any agreement is signed the train would have to place into an escrow account a significant amount of money and criteria must be established for making claims and for withdrawing from that account.

To put this proposal into perspective, let me offer one simple scenario. Assume it costs $50,000 to jack up a house and put under it a foundation capable of withstanding the train's vibration. Assume that 100 homes in Paonia are affected. The train's bill is only $5 million. For the train, which can clear up all past and future liability with one agreement, this is a great deal. Such an agreement would relieve the Town of having to defend itself from suits alleging grossly negligent enforcement or corruption. For the citizens whose homes are being destroyed, this is fair.

4

Regardless of the mechanism, one principle must be part of any agreement: **THE TRAIN SHALL PAY FOR ALL DAMAGE IT CAUSES.** In addition, the agreement must make the claims process easy for the aggrieved; **the train shall concede culpability, thus relieving the property owner of burden of proof.**

Thank you very much.

P.S. I do not have the resources to take on the train. I think it is wrong that the train can - with impunity - flaunt the law and destroy my house. I doubt that I am the only one. Please help us!

October 29, 1999

Mr. Jerry Jones
Bureau of Land Management
Uncompahgre Field Office
2465 S. Townsend Ave.
Montrose, Co. 81401

Dear Mr. Jones:

I would like to thank you for respecting my confidentiality. The last letter I wrote, and was published, was met with death threats, and the business I was working for, bore the brunt of an economic boycott, which eventually lead to my being laid-off. I know for a fact, the upper management of Bowie Resources participated in, and encouraged this boycott. I, also, suspect the gate at the Terror Reservoir was intentionally damaged, and the melt water we were in the process of collecting, was released. Now, things have cooled off and almost returned to normal. I still have issues with which I am uncomfortable, and I want to discuss them in an open and truthful manner without the fear of retribution.

1

The first is Subsidence Evaluation. Appendix K. I carefully read the DEIS, and I thought, " wow this guy really knows his business". Then I saw the list of references, and I thought, I can't win. I have one question, can all these experts guarantee 100% that there will be no subsidence under Terror Reservoir, Terror Creek or any disruption of the watershed, under alternative B or C ? Would you stake everything you own on this? I am being forced to accept this risk, no matter what I say or do. I can only hope, that any decisions made will protect my family and me from the loss of the value of my property, and the water that is so essential to my property. I'm not so certain that computer modeling, or educated guesses are good guarantees. I would ask that alternative D be given careful thought when the time for this decision is to be made.

2

3

Second, Ventilation. Chapter 3.12.4.3 page 3-170 *Noise Impacts by New Ventilation Facilities*. When I read this section, I noticed there were no stipulations, or mitigating measures pertaining to ventilation fans. I, also, want to bring to your attention, the researcher failed to contact anyone I know on Garvin Mesa or myself, and ask what we thought of the old Westmoreland Fan. Ten years of WHITE NOISE was NOT pleasant, and there was nothing I could do. The EIS process was not available to us at that time, so now, I am asking that some sort of mitigating measure(s) be added to all the alternatives to abate any noise generated by any Ventilation Fan. I can go outside my front door or open a window, and hear the WHITE NOISE from the ventilation fan, which is now in use, at the Bowie Mine. On those hot summer nights, I try to ignore the noise from this fan. I just don't want to listen to another ventilation fan. I am afraid that, as the Bowie Mine develops it's way west, there will be a need for a new and possibly larger Fan. Unless Alternative D is adopted, and even then, it should still contain some sort of language to protect us from this very unpleasant form of pollution. I challenge you to make a recording of a ventilation fan, and listen to it 24 hrs. a day, 7 days a week, 52 weeks a year, year after year.

4

The " Paonia Pod", as I understand, would be mined from entry ways directly beneath Terror Creek, where the overburden is quite shallow. From what I understand of subsidence, this would not be a good idea. The experts gathered to evaluate this, seem to feel there is a strong possibility of subsidence, surface cracking, and maybe a loss of stream flow. The stipulations or mitigating measures include, concrete the stream, or culverts, and the careful design of the underground entrys. Why Take The Chance? Is Money

5

6

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7

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going to be the Motivating Factor? Why not take the Paonia Pod out of the inventory? I was threatened that if I continued my opposition I would see coal trucks run past my door. That I would have to dodge drill rigs, and water trucks, on my road. This is the Truth. I have no alternative but to oppose the mining of the Paonia Pod.

Exploratory Drilling: Are all the drill sites nessessary? Are they going to be accessing these sites from Garvin Mesa? Could there be a stipulation witten, that there be no access from Garvin Mesa?

I don't want to stop coal mining, nor do I want to change my way of life to accomodate the bottom line of any company. During some of my research, I was greatly disturbed by some news events pertaining to the parent company of Bowie Resources, Addington. I believe this company has a reputation for thumbing their noses at the law. I don't trust the upper management to adhere to any agreements made. During one of my visits with upper management, I was shocked and distressed when I caught him in a bold face lie. There is no wording in the EIS that will protect us from underhanded or unethical practices by Addington, or the management team. Who provides this sort of protection? Isn't the first (and flawed), permit application, a good indicator of what to expect from this company? Has anyone looked into the past performance of Addington? Should past actions effect new permit applications? I have more questions now, than before. The EIS answered most areas of concern, about the environment. I know the scoping process was to be for everyone's benefit. I am confident that the mine, has been fairly treated. I don't oppose mining in the Iron Point Tract, but I feel that the findings of the EIS favor the mine in ways that will eventually adversly effect my neighbors and myself. Alternative D, is a fair compromise for everyone.

I have tried to keep my emotions out of this. And I have been mostly successful, but it is an emotional situation I am in. I love my land, my family, and my neighbors. I have seen coal mines come and go. Good and Bad. I lived through strikes, lay-offs, and boycotts, ups and downs, shut-downs and start-ups. I have been buried, bounced, and bloodied. I have lost friends in these mines. NO-ONE can deny that I am involved in coal mining. I paid my dues, and I am unwilling to sacrifice any mo... it is unfair to ask this of us on Garvin Mesa. We have our own struggles with which to contend, and any disruption caused by mining would be devestating to our little company, and to the folks who rely on TDRC to supply our water.

Thank you for your time.

Sincerely,

11/3/99

Mr. Jones,
I am writing this in regards to The Coal leasing proposal + The BLMs draft EIS. for this proposed new coal lease in the Nort Fork Valley

1 As a long Time resident (13 yrs.) of Stucker Mesa · near paonia on 035 Dr., I am Very concerned about The ridiculos Boom bust pattern that These coal leases Bring our local economy. As a property Manager I am pain fully award of this pattern and wonder why not stagger leases or limit prodection To mitigate This Cycle.

2 Also the increased Traffic - already dangerous on This windy 2 lane rural Hwy with inadequate shoulders and Turnin lanes in many places - These Traffic problems - plus the decrease in Tourisim and attractiveness of This Community Seem drastically wrong and simply profit motivat in The limited scope and minimal remedies for a major danger of Health and peaceful qualities That make This a place I choose To live

3 This EIS must include major Traffic, (Truck + train) impacts and alternatives To Tourisin - Retirement - Safety and eco social impacts in general. 2)

4 Water impact including a State approved water augmentation

4 Plan must Be in place Before mining Comences within one mile of Terror creek. To protect the eg. Community including reservoir - canals + Collection Basin.

5 The Currently proposed EIS IS Seriously Flawed - in not addressing These issues adequatly • if at all.

please help preserve this peaceful Small Town + protect our ecology from profit over proper

Andy Wolcott

Andrew Wolcott
3852 - 035 Dr
Hotchkiss, Co. 81419 - 9379

LETTER 58

Note to: Jerry Jones
From: Jeff Burch
Date: November 4, 1999

The following is a verbtim transcription of a message left on my voice mail on the morning of November 3. I am forwarding to you for inclusion in the public comments on the EIS.

1 "Jeff, This is Robin Nikeloff. (Uummmmm, gasp, I, I,) I just have to tell you that in nearly 20 years of reading environmental impact statements, I've never read one that was so as worthless as this coal, North fork coal EIS. (Uh, small gasp,) It just renders all the time that was spent in scoping and all those meetings virtually worthless..... and I hope to see some radical changes between this document and the final . Thank you. "

COPY

PUBLIC HEARING ON COAL LEASE APPLICATIONS

COC-61357 and COC-61209

Hotchkiss High School

Hotchkiss, Colorado

October 14, 1999

NCRA ASSOCIATION

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A P P E A R A N C E S

ALLAN BELT - Field Manager, Uncompahgre Field Office, Bureau of Land Management, Montrose.

DESTY DYER - Mining Engineer, Uncompahgre Field Office, Bureau of Land Management, Montrose.

LYNN LEWIS - Uncompahgre Field Office, Bureau of Land Management, Montrose.

SUE SPEER - District Ranger, United States Forest Service, Paonia Ranger District.

LIANE MATTSEN - Geologist, United States Forest Service, Paonia Ranger District.

The public hearing on Coal Lease Applications COC-61357 and COC-61209, taken at Hotchkiss High School, 3535 J 60 Lane, Hotchkiss, Colorado, on the 14th of October, 1999, at 7:08 o'clock p.m., before Joppa H. Smith, Court Reporter and Notary Public at Large.

* * *

MR. BELT: Thank you all for coming tonight. I see we have a couple of county commissioners, Ted Ventrello and -- or Jim Ventrello, that was good. Richard Englehart, the Delta city manager. I can either look out there or I can read what I'm supposed to read, and I'm going to do that, so I can't see any more faces that I recognize out there.

Bear with me please, there's 3 or 4 pages here that I'm required to read, and I'm going to do that. Oh, Sue Speer, district ranger from Paonia, is here also, right here. I forgot to introduce you.

It's 7:00 o'clock -- it's 10 after 7:00, October 14, 1999, and the public hearing on coal lease applications

COC-61357 and COC-61209 is now in session. I'm Allan Belt, and I am the field manager for the uncompahgre field office out of Montrose. The Colorado state office of the BLM in Denver, Colorado is proposing to offer for lease lands also known as the Elk Creek around Iron Point tracts.

In August 1997 Bowie filled a -- filed a coal lease application, COC-61209, which is known as the Iron Point tract, for portions of the following lands, and again, please bear with me, because I need to record these legal descriptions. Township 12 south, range 91 west, 6th principal meridian, sections 33 and 34. Township 13 south, range 91 west, 6th principal meridian, sections 2, 3, 4, 5, 8, 9 and 11, containing 3,403.27 acres in Delta County, with an estimated 24 million tons of recoverable coal.

In December '97 an application for coal lease was filed by Oxbow Mining, Incorporated, COC-61357, on the Elk Creek tract, requesting the BLM to offer for competitive lease federal coal in portions

of the following lands. Township 12 south, range 90 west, 6th principal meridian, section 31 and section 32. Township 12 south, range 91 west, 6th principal meridian, sections 35 and 36. Township 13 south, range 90 west, 6th principal meridian, section 5 and section 6. Township 13 south, range 91 west, 6th principal meridian, sections 1, 2 and 12. And that contained 3,862.81 acres, with approximately 21 tons of recoverable coal, and that was both in Delta and Gunnison Counties. The tracts are located approximately 9 miles northeast of Paonia, Colorado.

In addition, in May 1998, a coal exploration license application from Bowie Resources Limited, COC-61945, was received. The Iron Point exploration license contains unleased coal deposits owned by the United States of America in portions of the following described lands in Delta County, Colorado. Township 12 south, range 91 west, 6th principal meridian, sections 14, 22, 23, 26, 27, 28, 29, 32, 33, 34 and 35.

The area described contains approximately 6,053 acres.

There's a mixture of federal and private lands within the two coal lease tracts and the exploration license area as follows: 59 percent is Forest Service, 26 percent is BLM, and 15 percent is private.

All the coal within the two coal lease tracts and the coal exploration license area is federally controlled. The area is located approximately 5 miles northeast of Paonia, Colorado. The coal resource is recoverable by underground mining methods.

The lands are identified on the map appearing in the front of the room. Did you all get a look at the map, if you so desire? The Forest Service and the BLM completed a draft environmental impact statement in response to the coal lease applications.

The purpose of this hearing is not for questions and answers, but to receive your comments on the following items:

draft environmental impact statement; the method of mining to be employed to obtain the maximum economic recovery of the coal resources; the impact that mining this coal may have on the area, including but not limited to, the impacts on the environment and other economic activities; and finally, the method of determining the fair market value of the coal to be offered.

The public is invited to submit written comments concerning the draft EIS, fair market value and maximum economic recovery of the coal resource. Comments should be sent to Mr. Jerry Jones, Bureau of Land Management, at the following address, 2465 South Townsend Avenue, Montrose, Colorado 81401. Comments can also be sent by mail, by e-mail, and fax information to the numbers listed at the front of the room. Where are the numbers listed at the front of the room? Do you see them? Okay. Can everybody see those?

Comments must be received prior to the close of business or postmarked by

November 3, 1999. That's November 3. All comments received both tonight and in writing subsequent to this hearing will be considered prior to the lease offering.

I would like to introduce our court reporter, Joppa Smith. He'll be recording all the proceedings tonight. Ordinarily I would ask you to speak into the microphone, but as you can see, there is none tonight. But in order for him to hear, it would help if you would come up and get behind the podium, and that way -- I think you're -- I don't see any of the this (indicating), so I think you're all hearing me back there, so I'll have them speak just as I'm doing.

We plan to close the hearing at 9:30 if everything goes as expected. We request that each speaker limit their oral presentation to I would say 5 minutes. We have less than -- we probably have less than 20 speakers, so 5 minutes would be good. Please speak loudly so everybody in the room can hear you. And very

importantly, when you come up, please state your name and who you represent for the record. We'll be glad to have an open floor for informal questions and answers after the hearing is closed if there is a desire to do that.

We have some panel members here from the BLM and Forest Service. These folks are here to help clarify questions to make sure that -- clarify questions or statements and make sure that we get the proper information for recording and input into the draft environmental impact statement.

Desty Dyer, sitting right here, is our mining engineer. Liane Mattsen is a geologist with the US Forest Service from the Paonia ranger district. And Lynn Lewis is here tonight, also. Where is Lynn?

MS. MATTSEN: She's in the back.

MR. BELT: Oh, okay, Lynn. And Lynn will help out with that.

I'll call on speakers who have indicated that they have a desire to

speak, and then in the order of the signing at the roster at the door. If we have time, we will ask anyone else who would like to make any comments to do so, and I already alluded to that. All comments received both tonight and in writing subsequent to this hearing will be considered prior to the lease offering. The appropriate changes will be made in the EIS document.

The US Forest Service and the BLM hope to analyze the comments and complete the final EIS in order to have a decision document out by the end of January for review by the Colorado BLM state director.

A copy of tonight's transcript will be available at cost from the court reporter, or will be available for review at the Uncompahgre field office, or the Paonia ranger district office.

Okay, let's start with the testimony. The first individual who asked to speak with was Mr. Richard Ruden.

MR. RUDEN: Good evening everyone.

Thank you for the opportunity to speak. My name is Richard Ruden, and I'm here representing a group of concerned citizens.

I'm here to speak generally about the EIS and the process. We have received a document that was fast-tracked. Why? For the convenience of the mining community. Why was this necessary? Because from the very beginning one corporate management team wasn't timely and forthcoming with their true intentions, thereby adversely impacting the other mines and setting the leasing time table back as well.

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We didn't oppose this rush, because these workers are also our neighbors and our friends. We accepted on good faith that this EIS would truly analyze the concerns expressed by the community and explore proper alternatives that kept the coal flowing, but without such large impacts.

Unfortunately, this fast-tracked EIS is on course to derail this same process. It has, for all practical purposes, taken a

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flawed 50,000 word BLM EA and blah, blah, blahed it to 5 million words, and still hasn't yet begun to analyze the serious concerns raised, provided and documented by the people of Delta County. The EIS team has shunned transportation issues like a hot potato, fudged noise issues to obscurity, and trivialized other issues.

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Two quick examples of this is the failure of the EIS to analyze the effects of the proposed rail traffic on Highway 50 in Delta, only our county's busiest intersection. Another is the reported findings of noise on Garvin Mesa, documenting it to be 36 decibels at night at its quietest, and, perhaps ironically, comparing it to birds chirping, but, however, failed to mention the levels at its noisiest.

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Scientific monitoring on Garvin Mesa has repeatedly measured train passings in the mid to high 80 decibel range, or the level of a nearby bulldozer. In other words, in an attempt to fast-trac the EIS team has analyzed birds, but neglected

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bulldozers.

There are some people responsible for the EIS that say subsidence science is an exact science because it takes lots of technical measurements. Well, so do weathermen, and we all know meteorology to be an inexact science. In fact, the office of surface mining is on record that subsidence science is an inexact science, and therefore safety buffers are needed. We will continue this legal process to urge the BLM and Forest Service to deal with concerns.

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Almost a year ago our very own Allan Belt promised that, and I quote, the residents of the North Fork are going to have an incredible opportunity to determine the social, economic and environmental future of the North Fork. They have spoken overwhelmingly, too many trains. Nowhere have I seen entry into the EIS to allow that to happen.

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At the same time, Allan suggested that all parties work together to solve our own problems, saying he didn't believe the

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federal agencies should be making those kind of social and economic decisions. With this in mind, our group of concerned citizens are continuing to work within the Coal Working Group in an attempt to keep our community a prosperous and pleasant place to live.

Thank you for your time.

MR. BELT: Thank you, Mr. Ruden. Next, Paul Fritzler.

MR. FRITZLER: Hi, I'm Paul Fritzler with Oxbow Mining. I want to take this opportunity to say a few words about the draft EIS, our mining operations and the events of the last year.

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First, on behalf of Oxbow, let me thank everyone, the Bureau of Land Management and the Forest Service, who has been involved in this EIS process, along with our consultant, Sally Edwards, Inc., as well as all the members of the community who participated. We truly appreciate all of your hard work, diligence and perseverance throughout this needed process.

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This draft EIS is an extremely impressive document, and we believe it is one of the most complete and comprehensive coal leasing NEPA documents published in this coal region. As a result of all of your efforts, the final North Fork coal EIS will be a tool that will surely provide benefit to all of the people of the North Fork Valley for many years to come.

While this has not been an easy process, a lot of good things have certainly come out of it for the community, as well as for Oxbow. One of the things that I'm most proud of is our increased involvement in the community. Oxbow's relationship with the North Fork Valley community has grown throughout this last year as we all participated in the NEPA process. The scoping work, the informational meetings, and now comments on this draft EIS.

Alongside the NEPA process we participated in the coal issues, round table public forums, sponsored by the Delta/Montrose Public Lands Partnership,

and then became a member of the North Fork Coal Working Group. As many of you know, this group is made up of people from the mines, concerned citizens, environmental organizations, local governments, and others who have come together, quote, to sustain the viability of our coal industry in the North Fork Valley, while protecting the environment, the economy and the culture of our communities. This is, in fact, the mission statement of the Coal Working Group.

Oxbow is proud to be a part of this cooperative effort, and we intend to continue our participation beyond the EIS. Oxbow Mining looks forward to being a good neighbor, and we remain committed to this community and to supporting the environmental goals of NEPA.

Lastly, let me say thank you to all the members of our local community. I'm sure that it's safe to say that of the 17 years Oxbow has been in this valley, this last year has been the longest and most challenging.

As many of you know, we started off 1999 with the fire, and subsequent ceiling of the Sandborn Creek Mine. I know that the months following the mine fire were very difficult for us, our employees, their families and friends, and many of the businesses and others in the community.

With a lot of hard work, a fair amount of good luck, and the dedication and support of a lot of people, we have survived and are just now nearing the completion of our recovery efforts. These efforts have proven successful. In just a few weeks, we expect to start operating the long wall again. As always, safety will remain a priority at Oxbow Mining.

As we put the events of the last year behind us, Oxbow will focus on the development of the Elk Creek Mine, which will allow us to continue our mining operations well into the next century. While the Elk Creek Mine will provide continuing benefits to the local and regional economies, it will be developed

and operated with a strong commitment to the environment.

We look forward to the opportunities and the challenges that the coal mining business will undoubtedly bring in the years to come, and we are glad to be a part of this community.

Let me close by, again, expressing our sincere thanks for the support we have received over this last year. We are very excited about being back in operation, and we look forward to continuing as a good neighbor and a strong community member for many years to come.

Thank you.

MR. BELT: Thank you, Paul. Next on the list is Jim Ventrello.

MR. VENTRELLO: I guess I'm not as prepared as everybody else. I don't have a typed, prepared statement, but I would like to thank the BLM and the Forest Service for that fast-tracking initially, because the coal mines remain vital to the economy of Delta County, and that is one of the most important things that I have to

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say.

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The coal mines are extremely important to our economy. The EIS looked at all of these issues, and I think that, more than anything else, is what needs to be said here tonight.

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The EIS itself, I think overall, as a document is good, but we feel -- well, maybe I should say I feel that at this point that it needs to go a little bit farther. I would like to see some of the information in the appendix make it into the document.

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Where I'm headed with this is we have a forest plan revision coming up, and maybe this is more for the Forest Service, but I think some of that economic data needs to be not in the appendix, but in the actual bulk of the EIS.

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The local economies are vitally important, whether it's a ski area that's locating, a mine, or a timber sale. The impacts that it has on the economy needs to be directly addressed there.

The off-site impacts that we talked

about and was one of the reasons, the cumulative off-site impacts that we looked at also need to be not only just in the appendix and talked about, but I think, like some people have mentioned before, we would like to see those addressed more directly.

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The Highway 50 crossing in Delta is a concern to the County and to the City of Delta. I was just talking to the city manager, and we will have written comments as well.

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Those things, I feel, are the responsibility not only of the local community, but of the federal agencies as well, to weigh more heavily in the document, and as we saw, these were just in the appendix. So I think that would be our call, to weigh those things a little heavier, and we're setting that up for the forest plan revision as well.

There are things that -- of local economic importance that need to be in the main document, not just an appendix to the document.

MR. BELT: Thank you, Jim. Tom Morse.

MR. MORSE: My name is Tom Morse, and I am speaking tonight on behalf of the Western Slope Environmental Resource Council, a non-profit citizens group dedicated to protecting and enhancing the natural environment and quality of life of Delta County and Colorado's Western Slope.

WSERC was formed during the North Fork Valley's last coal boom in the late 1970s, and then, as now, our goal has been to help area citizens understand and mitigate the impacts caused by coal production, and to ensure that coal mining proceeds in a socially and environmentally responsible manner.

In particular, we seek to protect agricultural and domestic water rights, minimize adverse influences on community infrastructure and public safety, prevent environmental damage, and preserve our rural way of life.

WSERC recognizes that coal mining

has been and in the foreseeable future will continue to be an important component of the diverse economy and community of the North Fork region.

Currently our local coal industry is undergoing dramatic and unprecedented growth, more than 700 percent in this decade alone. We all know that growth, especially at this rate, creates significant problems.

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Before additional leases are permitted, we believe that the residents of Delta and Gunnison Counties deserve the opportunity for a full and open discussion of the consequences, both good and bad, that accompany this expansion.

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Thus, we want to convey our appreciation to the BLM and Forest Service for making the decision last winter to write a full-scale EIS. It was the right thing to do. Just studying the problem is not enough, however.

This EIS is also an opportunity to take action to protect and maintain our existing economic, cultural and

environmental resources, and to correct problems that have been created during this recent boom.

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We believe that as part of any future expansion, the local mines and responsible state and federal agencies should minimize environmental and social impacts, mitigate those which cannot be avoided, and reclaim and restore its old mine facilities in a more timely fashion.

I would now like to mention some particulars. Since this process began in 1998, WSERC has repeatedly raised the following points with the mining companies, BLM and the Forest Service.

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One, protect our critical water supplies and agricultural economy by either prohibiting mining under agricultural water systems, such as Terra Creek Ditch, or alternately requiring state approved water augmentation plans prior to any new mine expansion.

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Two, protect public safety on area roads. This EIS proposes increasing coal traffic on Highway 133 from 2 to 5 million

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tons per year. That would be equivalent to 978 28-ton trucks per day, 365 days a year, for the next decade. Clearly that is an unacceptable safety risk to our community, particularly for the families who live along that road, or use it on a daily basis. Don't wait for a fatality to happen, especially when the capability exists to build a new train loadout at the Bowie No. 2 Mine, which would completely eliminate this trucking menace.

62-6

Three, protect safety at railroad crossings. This new -- the new leases and long wall operations proposed in this EIS would more than double our valley's total coal production to nearly 20 million tons per year. In 1998, at 8.6 --

MR. BELT: How far into that -- how much more have you got to go?

MR. MORSE: I don't know. Have I already gone 5 minutes?

MR. BELT: Yes. How much more do you have to go? We've only got three more speakers, so if you could --

MR. MORSE: I'm halfway through.

MR. BELT: Go ahead and finish.

MR. MORSE: I'll do it fast.

MR. BELT: Okay.

MR. MORSE: In 1998 at 8.6 million tons we averaged 4.4 train trips per day. According to this EIS, that would increase to 19.2 million tons and 10 train trips per day, yet on the entire 98 mile line there is only one overpass or underpass, and not even a dozen crossing gates. If this expansion is permitted, there should be a corresponding investment in crossing safety improvements by the mines and railroad company. Again, we say the time to do this is now, before a serious accident happens. 62-6

Four. Similarly, the increased train traffic will cause traffic delays. Already this has begun to affect our ambulance, fire and police services. If this expansion is permitted, there should be a corresponding investment in crossing separations, such as overpasses or underpasses, improved communication systems, and procedures for emergency 62-7

service, personnel and equipment redundancies on either side of the tracks. The less expensive projects can be done cost effectively.

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Now we are discovering that these projects are not even contemplated in the EIS. Even more importantly, the large, expensive projects will take time in planning, and should be part of the up-front analysis. Public safety should never be an after thought.

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Finally, reclamation. We should be cleaning up retired mines and mine facilities conterminous with mine development, not deferring reclamation by idling instead of closing mines.

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Unfortunately, the draft EIS stops short of these solutions and other fair and reasonable mitigations, or doesn't recognize them at all. Just because these are so-called off-site impacts, the BLM and Forest Service should not be absolved of the consequences caused by their proposed decisions.

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By participating in the North Fork

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Coal Working Group, WSERC has been working diligently with the coal mine operators, local governments and concerned citizens to devise solutions for the problems listed above.

We are hopeful that these discussions will result in legally binding agreements, which will safeguard our agricultural water, eliminate proposed 978 trucks a day, improve public safety at railroad crossings, complete reclamation of old Bowie No 1 Mine, and protect our emergency services.

We ask that the BLM and Forest Service adopt and endorse these agreements in the final EIS, and help ensure that they are, in fact, implemented and successful.

Thank you for your patience.

MR. BELT: Thank you, Tom. Next on the list is Brent Helleckson.

MR. HELLECKSON: My name is Brent Helleckson. I have no political group that I'm serving and no economic -- where is the -- there is no microphone, you've

got to just speak up?

MR. BELT: Yes, yes.

MR. HELLECKSON: I have -- I'm not affiliated with any political group, and I have no economic gain stake in the outcome. I'm just a resident who lives near the mine, the proposed mine area, who is concerned with the impacts to my farm, my family and the community.

The comments that I'm making here tonight are a subset of more complete comments that I'll submit as written -- in a written form, but in the interest of keeping the process moving, in this fast-tracking that we've been talking about, I would like to point out a few things that hopefully can begin to be worked on in the interim.

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I don't intend to step on toes. This kind of thing is a difficult and complex analysis, but it's important to get it right. In my opinion, the document is historically accurate. I assume that the analysis that was done on historical data is correct. The scoping seems to be

complete based on the meetings that I attended, they seem to capture most of the things.

I believe that the document -- that the analysis portion of the document, section 3 in particular, contains errors of fact, some errors of omission, and an uneven treatment of some of the subject matter, and errors in modeling technique, and therefore some erroneous conclusions, and I'll give a couple of examples here, and then I'll sit down.

63-1

An example of errors of fact. In the wind and dust analysis, the wind rows that is in the document is incorrect. Based on my experience up in the area that we live, I believe that the prevailing wind is at least 90 degrees away from where it says in there. Therefore, the conclusions regarding plumes and dust transport and visibility are suspect, if not incorrect.

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An error of omission. Lighting was raised in the scoping section, but I did not find it dealt with anywhere in the document itself.

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Under transportation, the author in the transportation seriously proposes as a mitigation measure that in this case Savage Industries, that's who's operating it currently, hire train drivers and then ask them to obey the speed limit and increase public awareness. In order for this mitigation to be available, you have to presume that currently Savage hires untrained drivers and they routinely break the law and that the public doesn't know anything about the trucks. That -- Savage may have an issue with that, I think that that's not the case. But it strikes -- it strikes a reader as being a sales pitch as opposed to an analysis.

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Under the socioeconomic section, the transportation author, for example, in the prior section for the no action alternative, concludes that even no action may not guarantee that there's no increase in train or truck traffic. However, the socioeconomic author concludes that the no action alternative would result in near term loss of 1,023 jobs and over 2,000

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persons leaving the area. You can't have it both ways, it's either one way or the other.

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Okay. Conclusions drawn are similarly one-sided, given the analysis performed. One could also conclude that the jobs and population loss would be made up with approximately one year of growth at 3 percent, and that that growth would be made up of people who bring their money in and are not dependent on the local economy, and who don't have families, therefore, class size may even go down as a result of the no action alternative. I believe that there's more work to be done there in order to clarify and help people draw informed conclusions based on the data.

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The issue of subsidence is treated incompletely and modeled inappropriately, I believe. There's no parametric analysis, if I can call it that, no engineering -- I'm sorry, no engineering margins applied to any of the data that's in there.

The analysis is formulated on

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Dunrude's best guess based on past experience, and Dunrude is a recognized authority in the area, and that's good, however, he is betting -- he is making an assumption that because we mined close to something last time and it didn't fall in, we can mine close to it again this time. That's the same kind of analysis you would apply to Russian roulette, and you get shot in the head.

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So the angle of draws is assumed to be 21 degrees, and no safety margin is stated. The angle of draw occurring at Twenty Mile Mine of 63 degrees is completely ignored and not addressed at all in the analysis, and one would assume that if you did a parametric analysis, somewhere there would have to be a 63 degree angle that showed up in a 3 sigma case. So I would propose that further analysis be done on that, a parametric analysis with a Monte Carlo variation of parameters to develop a nominal case and some 3 sigma best and worst case examples.

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The subsidence issue and the related seismology associated with coal mining has been deemed by the insurance industry to produce risks that are uninsurable. So in my opinion, the buffer zone around the Terra Creek Reservoir is insufficient based on the analysis that has been performed and based on the analysis, i.e., the insurance company analysis, performed by uninterested parties.

I believe the document is flawed in several areas, and therefore vulnerable to appeal that would be indefensible. The document must be complete and accurate and evenhanded in order to serve as a decision making tool.

Thank you.

MR. BELT: Thank you, Brent. Joyce Scroggins, did you wish to speak? You've got a question mark there.

MS. SCROGGINS: Yes, I will.

MR. BELT: Okay.

MS. SCROGGINS: I'm Joyce Scroggins, and I work at Bowie Mine. I work in the payroll and human resource department. I

could stand here and recite all kinds of figures involving payrolls, but I'm not going to bore you with that.

I would just like to say that to take that many people out of employment would be real detrimental to the economy. More so than that, from the very beginning when we started this whole EIS process, our management sat us down, and the one thing that they stressed with all of us employees above all was that we needed to work with the community as a whole, because we all work here together.

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So we were told that we were not supposed to be hostile with anyone, regardless of whether or not our livelihoods are at stake, and of course all of us have felt very uneasy for the last few months, but still our management has stressed that, and I think that's something that needs to come across to you people, because that's important.

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I've also watched the management teams work together with both sides in trying to come to a solution. Anybody that

knows anything about mining at all knows that they are governed by lots of laws that require them to do things for reclamation, and for drastic things to happen to anything out there as far as natural resources, it's pretty unheard of.

Still, our mine is going above and beyond what we're called for to try and work over the issues, and try to assure that these things don't happen, and I would just like to say I want to see that continue, because it's important that we all work together as a community, we don't want to see any jobs lost, we don't want to see people out there living in a community that they're unhappy with or that they're unhappy with the mining, because the mining is this -- it is the business here, it is a big integral part in this area.

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That's all I would like to say.

MR. BELT: Thank you, Joyce. Ted Hayden.

MR. HAYDEN: I'm Ted Hayden, and I've been a county commissioner for 11 years in Delta County, and lived here for

over 30 years, and so I've come through the times that's good and bad in this county, and seen how it was when the mines weren't working good, and let me tell you, mining is very important to Delta County, because jobs bring money, and money brings prosperity and more people, so it's very important for Delta County to have jobs.

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I think that the EIS, the draft EIS -- now, let's remember that there is mistakes in there, and I brought some of them out to Allan the other night when we met, and there is mistakes in there, but it is a draft, and it does need corrections, but I do think that it has answered some of the questions very well. I think that if you have questions on there you should talk to these people and attend some of the meetings.

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I think the county took a leadership role in packing this problem with the EIS, because we felt that the jobs might be in jeopardy in this county, and jobs is money to the county, to the schools, and to the

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people that live here, so I think it's -- we took the leadership role, went to the public lands partnership, we started with the public lands partnership, and now we have the Coal Working Group, which we're working very hard and diligently to try to meet an agreement with some of the coal mining companies to answer some of the off-site impacts which we need to address, and which the EIS I heard previously did not address, and I have read the whole thing, so it did not address some of them problems.

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I don't believe them problems are all coal mine related and railroad crossings. The people that's moved here -- we've got 5,000 more people than we did ten years ago, so I think it's pretty hard to blame all of this on the coal mine, because not all 5,000 of them are working in the coal mine.

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So I think that what we have to do is to take the responsibility as the county grows and the income increases in the county and the revenues that we receive

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from sales tax, and us to take a leadership role in trying to mitigate some of the problems we have with railroad crossings, and I think the Coal Working Group has been working very hard on this.

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I think we will have an MOU to make sure that we'll have agreements in place, and I hope that the BLM and the Forest Service takes this into account when they issue their final decision on the draft EIS -- or on the final EIS.

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I think it's important for this group, as hard as they've been working, and we've been meeting very regularly, we met this week on Tuesday, and there was about a dozen people there, and we've been working hard and taking input from the community, and I as commissioner have been attending all of these meetings, Susan has been there, and I think that we -- we think it's very important for us to have an understanding with these coal companies so we don't hold them up in the final EIS and try to throw a monkey wrench in there.

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I think it's not American for us to

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take a look and try to hold back industry and limit, because this country was not built on holding companies back and letting people -- I think it's for the government to try to do what they can to try to create the atmosphere to create jobs, and I think it's very important for us to take a leadership and say this is what we're going to do to help these companies succeed in their business, and we will benefit as a county, everybody in here. The schools and the whole county will benefit.

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All of you people that don't work in the coal mines will benefit from the coal mines, because a few years ago when it was hard times here, the coal mines were out, and there weren't any jobs here.

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When I became commissioner, we didn't have the revenues that we have now. One cent sales tax used to bring in $400,000, and now one cent sales tax in this county brings in a 1,400,000. So the economy is better, and I think we as a county should take that leadership opportunity and say let's work as a community and make sure

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that these jobs are protected and stay here, but we want to make sure that the environment is protected, because I think that's important, but let's don't overlook the fact that the economy is important.

If you want to live here, we've got to have a thriving community, and jobs is what creates that.

Thank you. We'll have written comments, the county will, later on.

MR. BELT: Thanks, Ted. Brenda Holloway.

MS. HOLLOWAY: Hi, I'm Brenda Holloway, I'm here representing my family.

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First of all, I would like to thank BLM and the Forest Service for putting this EIS process on the fast-track, because I'm pretty sure at least one coal mine, if it hadn't been, would have had to shut down or lay off to wait for a decision to be made, and I appreciate that that did not have to happen.

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I'm here to support a favorable decision on the lease applications. One

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change that I would like to see from the draft, that the final EIS represent the current permitted production rates for both coal mines.

I also am a member of the North Fork Coal Working Group and have been involved in the community issues in trying to solve those. I want those to stay community issues. I do not believe that those should be involved in the EIS process. We as a community want to mold our future, so let's keep that locally instead of federally.

Thank you.

MR. BELT: Thank you, Brenda. Steve Hinchman.

MR. HINCHMAN: Hi, my name is Steve Hinchman, and I work for the Western Slope Environmental Resource Council, and last year we brought 1-1/2 jobs to Delta County.

We all struggle to make it here, and if you get on the internet and you look at coal issues in this country, you'll find the term coal field war pretty often, it's a pretty bitter and rancorous situation in

a lot of places, in Appalachia and northern Wyoming and elsewhere.

We were going down that road a year ago here in Delta County, and I really -- I'm just really excited at what we've turned around. In the last two weeks I've had seven meetings with county officials and the various coal mines. A year ago we weren't talking to each other, and now we're meeting three times a week.

67-1

We are working hard to resolve a lot of conflicts, and for our part, there's give and take, and on the other side there's give and take. I think you've all heard a lot of the references to the North Fork Coal Working Group, and my appreciation to the county for helping create that table and keep us all at the table to keep working on solutions.

One of the concerns I have is we are starting to bog down in some of the details that comes up -- it takes to come up with solutions, and those are pieces I wish were in the EIS, and I want to ask the BLM and the Forest Service if perhaps some of

your staff can help provide answers to some of the questions we're running up against that we don't have the resources that we need in place, and I'll give you an example.

67-2

The transportation section in the EIS discusses increased rail traffic, increased incidents of contact between rail and vehicles, and the likelihood for accidents and other problems of that nature, and it kind of sums it up by saying well, everybody will be more educated, and the percent rates of accidents will go down, even though there will be more accidents, and that's sort of meaningless information.

67-3

What we really need are the numbers of crossings; the types of crossings they are that are there; the identifications of problem crossings; the reasons why they're problem crossings, visibility, speed, corners, things like that; the existing mechanisms that are there on those crossings for public safety; where the drive-arounds are for ambulance and other

emergency service providers; where we need overpasses and underpasses, because there aren't quick drive-arounds.

Things like what upgrades are appropriate, cross arms, flashing lights, approach lights on corners; what do these things cost; what are the sources of money to get these upgrades from the various state and federal wallets that are out there; what cost shares can we count on from different parties; and what are the mechanisms. 67-3

We're three years out on some of this state and federal money to get in and do some rail upgrades, and so how long will the whole package take.

That's the kind of information I want my county commissioners and my town councils to have in their hands when they make comments on these coal leases, and that's the kind of information I want the federal agencies to have when they make their decision.

That's what's going to govern the mitigations, that type of information, and

the willingness to come up with multiple cost shares from all the local pots of money, the industries, and make sure we have the mitigations in place prior to increasing production levels and traffic levels to the point where we have a serious accident.

I think we're on our way, but I really do believe the local group is sort of carrying more weight than they can carry, and we need some of the talent that put that EIS together to go out an answer those questions. You know, one month full time equivalent helping the Coal Working Group at this point would be very helpful.

67-4

I do need to say this is -- I'm freelancing here, the Coal Working Group didn't ask for this, I'm asking for it, because I'm one of the people in that group trying to answer a lot of these questions, and it's a long, slow, arduous process.

We see that the EIS by being a bit more substantial on some of the hard, tough questions could help the community process work better.

67-5

Thank you.

MR. BELT: Thank you, Steve. That concludes the list of everybody who has signed up to speak.

Is there anyone out there who has signed the list and did not indicate that they would like to speak? There is? Come on up and give your name for the recorder, and you may speak.

Rich, are you signed up on here?

MR. ENGLEHART: I am, I just neglected to check. I wanted to see how it was going first.

My name is Rich Englehart, I'm the city manager for the City of Delta. I would also like to thank the BLM and the Forest Service for the opportunity for the public input from the local government standpoint.

68-1

The city very much understands and recognizes the importance of the mining industry as it relates to the City of Delta's economy. There are a number of local businesses and industries that are dependent on the success and the operations

68-2

68-2

68-3

68-4

68-5

of our local mines.

The City of Delta is concerned though on the lack of attention that has been given to the rail crossings at Highway 50, and also other numerous crossings that exist within our community.

The city is currently under a contract that we are looking at with a firm that's studying our local traffic needs, of which is also taking a look at the highway crossing itself. We're hoping that with that we're going to come out with some information that's going to give us some better traffic counts, more current traffic counts. Also, it's going to deal with some costs associated with grade separations and alternate routes. We're hoping that that information is going to be available that we can put in for additional comment within the EIS.

I would also like to mention that we are an active participant within the North Fork Coal Working Group, and want to also thank the county for the format that they have put together for that public input.

And with that, I would just like to go on record that we will be making further comment.

MR. BELT: Thank you, Rich.

Is there anybody else, before we close the formal part of this hearing, that would like to say anything for the record, any new information, any information at all that you have that you want to share with us?

Okay. It is approximately 8:00 o'clock. I would declare the official part of this hearing closed. We will hang around for a little while to visit and to talk, and you're free to go or stay as you please. Thank you very much for coming tonight.

(Hearing concluded at 8:00 o'clock p.m.).

REPORTER'S CERTIFICATE

I, Joppa H. Smith, do hereby certify that the said hearing was taken in shorthand by me at the time and place aforesaid and was reduced to typewritten form under my supervision; that the foregoing is a true transcript of the testimony given and the proceedings had.

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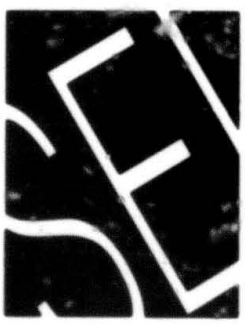

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